State of California – A Natural Resources Agency
Gavin Newsom, Governor

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Caroline Thomas Jacobs, Director

December 23, 2025

Subject: Office of Energy Infrastructure Safety's Draft Decision for Southern California Edison Company's 2026-2028 Base Wildfire Mitigation Plan

Dear Wildfire Mitigation Plan Stakeholders:

Enclosed is the Office of Energy Infrastructure Safety's Draft Decision approving Southern California Edison Company's (SCE's) 2026-2028 Base Wildfire Mitigation Plan.

This Draft Decision is published for public review and comment. Opening comments must be submitted no later than January 12, 2026. Reply comments must be submitted no later than January 22, 2026.

Comments must be submitted to Energy Safety's e-filing system in the 2026-2028 Wildfire Mitigation Plans docket (#2026-2028-Base-WMPs).[1] Energy Safety's Policy Division Process Guidelines provides more information on submitting opening and reply comments.[2]

Sincerely,

/s/ Tony Marino

Tony Marino
Deputy Director | Electrical Infrastructure Directorate
Office of Energy Infrastructure Safety

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[1] Submit comments via the 2026-2028-Base-WMPs docket on Energy Safety's e-filing system, URL:(https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2026-2028-Base-WMPs).

[2] ESPD Process Guidelines, URL:(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=58025&shareable=true), pages 2-3.

OFFICE OF ENERGY INFRASTRUCTURE SAFETY

DRAFT DECISION

SOUTHERN CALIFORNIA EDISON COMPANY

2026-2028 BASE WILDFIRE MITIGATION PLAN

December 2025

1. Executive Summary

The Southern California Edison Company (SCE) 2026-2028 Base Wildfire Mitigation Plan (WMP) is approved.

The Office of Energy Infrastructure Safety (Energy Safety) works to ensure electrical corporations construct, maintain, and operate electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment. Pursuant to Public Utilities Code section 8386.3(a), this Decision serves as Energy Safety's assessment and approval of the SCE 2026-2028 Base WMP, dated October 27, 2025, which is inclusive of all changes resulting from the Revision Notice and previously submitted errata.

In its 2026-2028 Base WMP, SCE continued to make commitments to improve mitigation activity selection and reduce wildfire risk by setting specific targets for its initiatives and activities. SCE is continuing to evaluate circuits to reduce PSPS risk and conducted new analysis to target more circuits.

SCE improved its grid hardening strategies, asset inspections, and deployment of Rapid Earth Fault Current Limiter (REFCL) technology. SCE is taking steps to reduce its wildfire risk in high wind conditions through three types of remediations to reduce conductor clashing on its long spans. SCE is also mitigating the risk of aging assets and the potential for wire down events and outages by providing plans for aerial inspectors to identify spans and splices reaching the end of their service life.

SCE also improved its vegetation management strategies. For example, SCE plans to conduct more structure brushing than is required by Public Resource Code Section 4292, which will likely reduce its ignition risk. SCE implemented expanded clearances for its vegetation management program, leading to lower ignition risk.

There are, however, areas where SCE must improve. SCE needs to demonstrate more risk model refinement with more explanation and granular detail on how SCE calculates risk variables. Other specific areas where SCE should demonstrate improvement include more explanation of its fast curve settings, and more proactive pole inspections and activity tracking.

Moreover, in its 2026-2028 Base WMP SCE did not include any lessons learned from its experiences during the January 2025 severe weather event and wildfires in its service territory. SCE also did not include any plan for incorporating lessons learned in its 2026-2028 Base WMP. Due to this absence of lessons learned, Energy Safety will require more explanation on SCE's experiences during the January 2025 severe weather event and wildfires in future WMP submissions.

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2. Introduction

Energy Safety approves the SCE 2026-2028 Base Wildfire Mitigation Plan (2026-2028 Base WMP), Revision 2, which includes revisions resulting from the Revision Notice and previously submitted errata.

SCE submitted its 2026-2028 Base WMP on October 27, 2025. This Base WMP covers a three-year period from 2026 through the end of 2028 (the WMP cycle). SCE prepared its Base WMP in accordance with the requirements set forth in the Energy Safety WMP Guidelines.

2.1 2026-2028 Base WMP Submission and Publication Summary

This section provides a list of the 2026-2028 Base WMP submissions and publications by SCE and Energy Safety. Information regarding the submission types can be found in the Energy Safety WMP Guidelines.

- March 28, 2025 – SCE submitted its 2026-2028 Base WMP Pre-Submission
- April 11, 2025 – Energy Safety issued the Pre-Submission Check Sufficiency Determination for the SCE 2026-2028 Base WMP Pre-Submission
- May 16, 2025 – SCE submitted its 2026 Maturity Survey
- May 16, 2025 – SCE submitted its 2026-2028 Base WMP
- August 15, 2025 – Energy Safety issued a Revision Notice for SCE 2026-2028 Base WMP
- September 15, 2025 – SCE submitted the Revision Notice Response
- September 15, 2025 – SCE submitted its revised 2026-2028 Base WMP, R1
- October 27, 2025 – SCE submitted its non–substantive errata and revised 2026-2028 Base WMP R2

2.2 Consultation with California Department of Forestry and Fire Protection

The Office of the State Fire Marshal is part of the California Department of Forestry and Fire Protection (CAL FIRE). Public Utilities Code section 8386.3(a) requires Energy Safety to consult with the Office of the State Fire Marshal in reviewing electrical corporation WMPs. The Office of the State Fire Marshal provided meaningful consultation and input on the evaluation, but this Decision is solely an action of Energy Safety and not the Office of the State Fire Marshal or CAL FIRE.

2.3 Public Comment

In rendering its Decision, Energy Safety considered comments on the SCE 2026-2028 Base WMP submitted pursuant to Public Utilities Code section 8386.3(d).

2.3.1 Comments on the SCE 2026-2028 Base WMP

Energy Safety invited members of the public to provide comments on the SCE 2026-2028 Base WMP. The following individuals and organizations submitted comments:

- Green Power Institute (GPI)
- Mussey Grade Road Alliance (MGRA)
- Rural County Representatives of California (RCRC)
- Resilient Structures (RS)
- Southern California Edison Company (SCE) – Reply Comments only

Energy Safety considered all comments prior to issuing this Decision. Appendix D contains a summary of the comments Energy Safety concurred with and incorporated into this Decision.

2.3.2 Comments on the SCE Revision Notice Response and Revised 2026-2028 Base WMP

Energy Safety invited members of the public to provide comments on the SCE Revision Notice Response and revised 2026-2028 Base WMP (published for comment on August 15, 2025. No members of the public provided comments on the SCE Revision Notice Response and Revised 2026-2028 Base WMP.

2.4 Environmental Compliance

An approved WMP shall not be construed as relieving any electrical corporation from complying with all applicable local, state, or federal environmental requirements. A list of selected examples of state environmental requirements is available on Energy Safety's website for reference.[1] Electrical corporations should reach out to the primary agency responsible for an environmental requirement for any additional information.

2.5 Area for Continued Improvement Reporting

Reporting of required progress for areas for continued improvement in this Decision fall into the categories of due by next WMP Update or next Base WMP. Areas for continued improvement that require progress by the next WMP Update will be due no sooner than a

[1] Examples of State Environmental Requirements.

2027 WMP Update. The timing and period covered by the next Base WMP have yet to be decided. The schedule for upcoming WMP submissions is pending development due to ongoing implementation of 2025 California Legislative Service Chapter 119 (Senate Bill 254, Becker) ("SB 254").

SB 254, which became law on September 19, 2025, impacts WMP cycles, submission schedules, and technical requirements, and imposes new and amended statutory requirements on the existing WMP process. Energy Safety is working to implement the changes from SB 254 and expects to hold at least one public workshop to gather feedback from electrical corporations and stakeholders on potential changes. Energy Safety plans to issue a WMP submission schedule and to revise its WMP Guidelines to reflect the changes and new requirements.

3. Introductory Sections of the WMP

SCE provided the required information for the following sections in accordance with Chapter III of the WMP Guidelines:

- Section 1: Executive Summary
- Section 2: Responsible Persons
- Section 3: Overview of the WMP (Primary Goal, Plan Objectives, Prioritized List of Wildfire Risks and Risk Drivers, Performance Metrics, Projected Expenditures, and Climate Change)
- Section 4: Overview of the Service Territory (Service Territory, Catastrophic Wildfire History, and Frequently Deenergized Circuits)

4. Projected Expenditures

SCE provided the required information[2] regarding projected expenditures in accordance with Chapter III, Section 3.6 of the WMP Guidelines. SCE provided additional information regarding projected expenditure in accordance with the Energy Safety Data Guidelines;[3] a summary of this information is presented below.

Table 4-1 presents a comparison of the projected expenditures of all the large investor-owned utilities (IOUs) across each respective service territory. Table 4-2 presents a comparison of the projected expenditures of all the large IOUs, separated into High Fire Threat Districts (HFTD) and non-HFTD.

Figure 4-1 presents SCE's expenditures for covered conductor, undergrounding, and asset inspections, Figure 4-2 presents SCE's expenditures for vegetation management and inspections, and Figure 4-3 presents SCE's expenditures for customer support in wildfire and PSPS emergencies and grid improvements to mitigate PSPS events.

Table 4-1. Large IOU Projected Expenditures Comparison

	PG&E		SCE		SDG&E			
WMP Initiative Category	Total Territory	% of PG&E Grand Total	Total Territory	% of SCE Grand Total	Total Territory	% of SDG&E Grand Total	Grand Total	% of IOUs Grand Total
Wildfire Mitigation Strategy	$26.7M	0.14%	$7.5M	0.11%	$16.3M	1.58%	$50.5M	0.19%
Vegetation Management and Inspections	$3.7B	19.98%	$2.1B	29.81%	$257.6M	24.87%	$6.1B	22.75%
Situational Awareness and Forecasting	$247.6M	1.33%	$133.7M	1.91%	$26.2M	2.53%	$407.6M	1.53%
Risk Methodology and Assessment	$32.5M	0.17%	$19.7M	0.28%	$30.5M	2.94%	$82.6M	0.31%
Grid Design, Operations, and Maintenance	$13.8B	74.05%	$4.4B	62.62%	$543.8M	52.49%	$18.7B	70.21%
Enterprise Systems	$246.3M	1.32%	$93.2M	1.33%	$27.8M	2.68%	$367.3M	1.38%
Emergency Preparedness, Collaboration and Public Awareness	$557.7M	3.00%	$275.7M	3.94%	$133.8M	12.91%	$967.2M	3.63%
Grand Total	**$18.6B**	**100.00%**	**$7.0B**	**100.00%**	**$1.04B**	**100.00%**	**$26.6B**	**100.00%**

[2] Energy Safety's WMP evaluation and decision on a WMP is not an approval of, or agreement with, costs listed in the WMP.

[3] Data Guidelines, pages 165-167.

Table 4-2. Large IOU Projected Expenditure Comparison HFTD vs Non-HFTD

	PG&E			SCE			SDG&E		
WMP Initiative Category	HFTD	Non-HFTD	% Spend in HFTD	HFTD	Non-HFTD	% Spend in HFTD	HFTD	Non-HFTD	% Spend in HFTD
Wildfire Mitigation Strategy	$26.7M	$0	100.00%	$7.5M	$0	100.00%	$16.3M	$0	100.00%
Vegetation Management and Inspections	$2.0B	$1.7B	53.60%	$1.4B	$710.2M	65.97%	$166.0M	$91.6M	64.45%
Situational Awareness and Forecasting	$123.6M	$124.0M	49.93%	$133.7M	$0	100.00%	$25.4M	$795000	96.97%
Risk Methodology and Assessment	$27.3M	$5.2M	84.05%	$19.7M	$0	100.00%	$30.5M	$0	100.00%
Grid Design, Operations, and Maintenance	$9.4B	$4.3B	68.44%	$4.4B	$0	100.00%	$538.6M	$5.3M	99.03%
Enterprise Systems	$246.1M	$220954	99.91%	$93.2M	$0	100.00%	$27.8M	$0	100.00%
Emergency Preparedness, Collaboration and Public Awareness	$485.1M	$72.6M	86.99%	$275.7M	$0	100.00%	$133.8M	$0	100.00%
Grand Total	**$12.3B**	**$6.3B**	**66.27%**	**$6.3B**	**$710.2M**	**89.86%**	**$938.4M**	**$97.6M**	**90.58%**

Figure 4-1. SCE Grid Design, Operations, and Maintenance (HFTD)

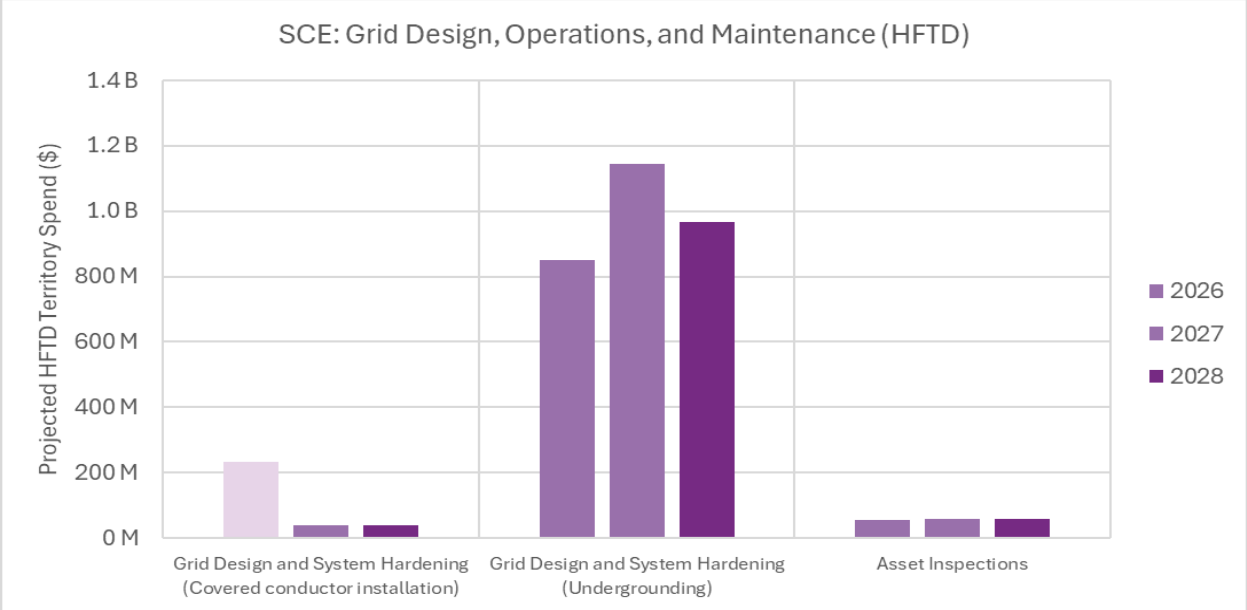


Figure 4-2. SCE Vegetation Management and Inspection (HFTD)

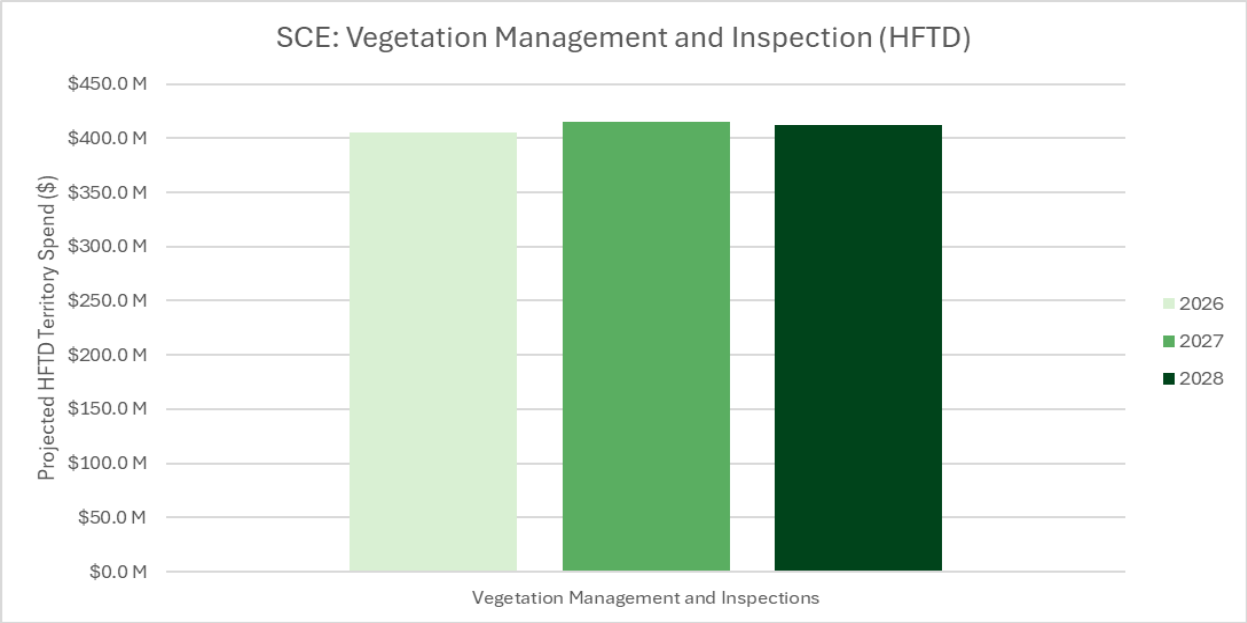
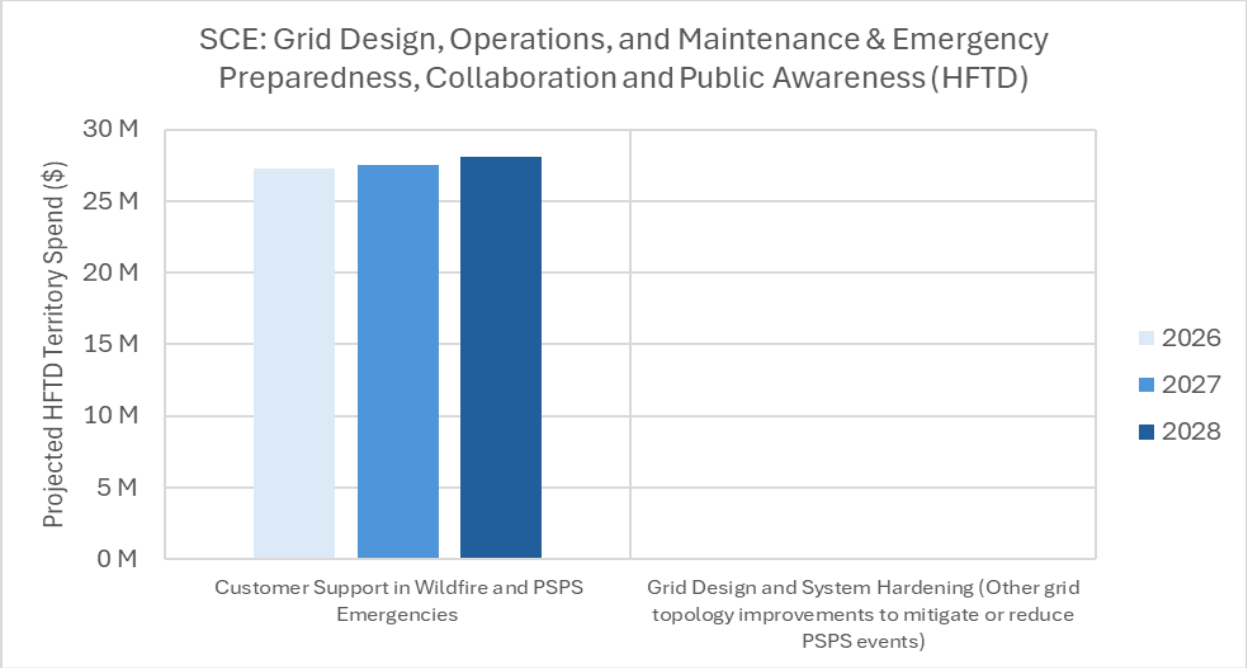


Figure 4-3. SCE Grid Design, Operation, and Maintenance & Emergency Preparedness, Collaboration and Public Awareness



5. Risk Methodology and Assessment

Chapter III, Section 5 of the WMP Guidelines requires the electrical corporation to provide an overview of its risk methodology, key input data and assumptions, risk analysis, and risk presentation (i.e., the results of its assessment).[4] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

5.1 Discussion

This section discusses Energy Safety's evaluation of the risk methodology and assessment section of the SCE 2026-2028 Base WMP.

SCE provided several updates to its risk modeling frameworks that are intended to refine SCE's risk calculations. For example, SCE made efforts to advance its risk modeling from deterministic to quasi-probabilistic which SCE states will allow it to better understand the relative risk of catastrophic wildfires in discrete locations.[5] SCE also refined its extreme weather scenario modeling by prioritizing weather station installations and extending its extreme event scenario planning from 2030 to 2050.[6, 7] These updates should lead to a more granular understanding of extreme weather impacts and scenario planning across SCE's service territory.

SCE also improved its data validation methods over the last few WMP cycles through in-field verification and is in the process of applying similar data validation and assessing risk on its transmission assets. These examples demonstrate that SCE is making continued investment in improving its risk modeling and risk frameworks, and therefore better identifying the highest risk areas across its service territory for mitigation selection purposes. SCE should continue to improve its risk modeling and risk frameworks by connecting the weather scenarios used for its likelihood and consequence calculations, expanding its wildfire simulation duration, and providing independent review of its risk models, as discussed below.

[4] Pub. Util. Code §§ 8386(c)(3), (8), (12)-(13), (17)-(18).

[5] SCE 2026-2028 Base WMP, R2 page 579.

[6] SCE 2026-2028 Base WMP, R2 pages 387-388.

[7] SCE 2026-2028 Base WMP, R2, page 387.

5.1.1 Risk Methodology

In its 2026-2028 Base WMP, SCE explained that it uses two risk modeling frameworks: the Multi Attribute Risk Score (MARS) framework and the Integrated Wildfire Mitigation Strategy (IWMS) framework.[8] SCE uses the MARS framework to calculate and output overall utility risk scores throughout its service territory. SCE uses the IWMS framework to augment its MARS methodology using primarily the consequence-only risk ranking to inform mitigation and high-risk area selection.[9] However, the IWMS framework fails to account for ignition likelihood, and relies solely on consequence to categorize risk areas, which could distort risk scores throughout SCE's service territory.

SCE's IWMS framework organizes risk into three categories: Severe Risk Areas (SRA), High Consequence Areas (HCA), and Other High Fire Risk Areas (Other HFRA). [10, 11] Since the IWMS framework does not explicitly incorporate probability or ignition likelihood, its role in shaping priorities can overvalue areas with high-consequence exposure where the ignition likelihood is low. It is important for risk models to factor in ignition likelihood to have a more holistic understanding of risk across the service territory, and to be able to identify and locate particular trends in ignition risk drivers. While the IWMS framework's focus on wildfire consequence helps SCE understand the difference between a potential ignition location and the propagation into a catastrophic wildfire, without properly balancing ignition likelihood, SCE may be missing areas that are more likely to have ignitions. This is discussed further in Section 6.1.2.1 of this Decision.

In practice, SCE's categorization of risk across its service territory into three distinct consequence areas (SRAs, HCAs, and Other HFRA) makes it unclear what SCE's risk approach is, including whether such categorization can obscure how risk factors are scaled, similar to other large electrical corporations' use of risk scaling functions.[12] In some ways, it may be more risk averse, given that SCE categorizes areas of its service territory based on set criteria and therefore weights that criteria more heavily as inherently risky. However, in other ways, SCE may be missing certain risks given the lack of integration of ignition likelihood. Both the categorization of risks based on set criteria and the use of risk scaling functions can distort how risk is understood. Therefore, risk scaling approaches should be evaluated for their impact on risk scores' consistency across the industry.

SCE's overall risk evaluation relies on the IWMS framework, despite it overvaluing areas with high-consequence exposure by using primarily a consequence risk lens. Given SCE's use of

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[8] SCE 2026-2028 Base WMP, R2, page 39.

[9] SCE 2026-2028 Base WMP, R2, pages 40 and 49.

[10] SCE 2026-2028 Base WMP, R2, page 152.

[11] SCE 2026-2028 Base WMP, R2, page 50.

[12] SDG&E 2026-2028 Base WMP, R2, pages 43-44; and PG&E 2026-2028 Base WMP, R2, page 46.

the IWMS framework to shape its risk categorizations and operational decisions, SCE must collaborate with the other large electrical corporations to evaluate how adopting risk scaling approaches affects the consistency and effectiveness of wildfire mitigation planning. Energy Safety provides the requirements for this collaboration through area for continued improvement SCE-26B-04: Sensitivity Analysis for Risk Averse Scaling or Approach.

5.1.2 Risk Analysis Framework

5.1.2.1 Monetization of Risk Models

SCE currently uses average cost information to represent the value of structure impact, suppression, and restoration costs. While using average cost to represent these values is an initial approach to understanding impacts of wildfire costs using consequence scaling factors as proxy, SCE, along with other electrical corporations, is still in the process of maturing and developing monetization of risk.

The California Public Utilities Commission (CPUC) required the large electrical corporations to switch to monetized attributes to calculate risk in the CPUC's Risk Assessment Mitigation (RAMP) proceeding.[13] The monetization of the safety and reliability attributes required through the RAMP process will be based on the most current published United States Department of Transportation (USDOT) Value of Statistical Life and Lawrence Berkeley National Laboratory Interruption Cost Estimate calculator, respectively.[14, 15] SCE stated it intends to revise the monetized values based on information gathered in Energy Safety workshops and other electrical corporations' RAMP filings.[16] According to these CPUC requirements, SCE specified that it plans to transition to the use of fully monetized safety, reliability, and financial attributes by its next RAMP filing on May 15, 2026.[17, 18]

Energy Safety generally supports the transition to monetized attributes for more transparent insight into how risk outputs are calculated. However, the transition to monetized attributes may impact the scaling factors for the wildfire consequence calculation depending on its implementation. This may lead to inconsistencies in the granularity of valuation approaches across electrical corporations, particularly for the monetized attribute. For example, one organization may use an average value-per-acre for the entire area burned or an average structure value for all structures destroyed, and another may assign different values-per-acre or values-per-building based on the land use or local characteristics. Also, one organization

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[13] D.24-05-064, Findings of Fact number 37, page 116.

[14] Response to Data Request 2.

[15] SCE 2026-2028 Base WMP, R2, page 96.

[16] Response to Data Request 2.

[17] SCE 2026-2028 Base WMP, R2, page 103.

[18] Response to Data Request 2.

may include per-diem expenses for affected customers in its financial attribute estimate, while another may not. These differences in value and granularity may distort scaling factors and require more explanation while electrical corporations are transitioning to monetized attributes.

Energy Safety expects SCE to explain in its next WMP Update the changes that result from this shift to using monetized attributes given the transition is still in process.[19] SCE must also collaborate with the other large electrical corporations[20] to evaluate how monetizing these attributes affects the consistency and effectiveness of wildfire mitigation planning. Energy Safety provides the requirements of this collaboration through area for continued improvement SCE-26B-04: Sensitivity Analysis for Risk Averse Scaling or Approach.

5.1.2.2 Risk Calculation Updates

In its 2023-2025 Base WMP, SCE used maximum consequence to calculate risk scores.[21] However, in areas for continued improvement SCE-23-02 and SCE-25U-01, Energy Safety directed SCE to better develop its capacity to use probabilistic modeling, such as incorporating probability distributions and probabilistic modeling into its risk models.[22, 23] In response to these directives, in its 2026-2028 Base WMP, SCE explained that it updated its risk calculation in several ways in response to area for continued improvement SCE-25U-01, which required SCE to consider incorporating probability distributions and probabilistic modeling into its risk models. SCE's new process uses Fire Weather Days (FWDs) and Fire Climate Zones (FCZs) to switch to a quasi-probabilistic approach. However, while these updates demonstrate progress, further development is still necessary. This is because the difference between how SCE uses weather data in two parts of its model may result in inaccurate estimations of overall risk, and therefore requires further explanation.

Risk can be calculated by the product of the Likelihood of a Risk Event (LoRE) and the Consequence of a Risk Event (CoRE). SCE's 2026-2028 Base WMP update to its risk calculation consisted of changes to how it calculates both LoRE and CoRE. Burn likelihood, a component of LoRE, is defined as the likelihood that a wildfire will burn from an ignition point out to a certain location.[24] Burn likelihood is a factor intended to capture the probability distribution of wildfire risk reaching different magnitudes under different weather and fuel conditions, by weighting those conditions in the LoRE calculation. For all calculation purposes, SCE assumes a probability of "1" for the burn likelihood, effectively making ignition likelihood and wildfire

[19] Response to Data Request 2.

[20] The large electrical corporations are PG&E, SDG&E, and SCE, both here and throughout this Decision.

[21] SCE 2023-2025 Base WMP R3.1, pages 100 and 153.

[22] Decision on SCE 2023-2025 Base WMP, page 82.

[23] Decision on SCE 2025 WMP Update, page 50.

[24] WMP Guidelines, page 32.

likelihood equivalent.[25] Instead of using burn likelihood, SCE accounts for the probability that wildfire risk reaches different magnitudes by weighting weather and fuel conditions in the CoRE calculation with its FWD approach, as described below.

SCE identifies relevant FWD from a set of total weather days at a given location to determine a ratio of how many days an ignition at that location might transition into a wildfire, based on historical weather data.[26] The FWDs determined by SCE are then used in the calculation of wildfire consequence, i.e., CoRE, and provide the basis of a weather frequency-based probability distribution for consequence. However, it is not clear that this probability distribution aligns with the weather frequencies used to develop ignition likelihood, i.e. LoRE.

For the calculation of CoRE, SCE's territory is split into Fire Climate Zones (FCZs), which represent different geographic areas based on similar terrain, fuels, and weather conditions.[27] Each FCZ is assigned only the FWDs with conditions applicable to the zone, and the selected FWDs are used to simulate the wildfire events specific to each FCZ. The simulation results tied to each specific FWD are used to determine statistical distributions of consequence and how it varies across each FCZ.[28]

For the calculation of LoRE, the ignition likelihood component of the risk calculation is calculated independently for each asset based on historical failure data and weather frequencies.[29] The risk at an asset location is then calculated by multiplying these two independently calculated values.

SCE noted that the use of statistical distributions for consequence is a quasi-probabilistic approach that provides an improvement over its previous maximum consequence approach.[30] "Despite this improvement, the weather conditions SCE uses may not be the same between the likelihood and consequence statistical distributions. This is because the weather conditions SCE uses may not be the same between the likelihood and consequence statistical distributions. Due to the disconnect between the weather frequencies developed for likelihood and the weather frequencies developed for consequence calculations, SCE's approach is less accurate than using a consistent set of scenarios which are evaluated across both the likelihood and consequence models.

SCE's approach to incorporating weather data differently between its LoRE and CoRE calculations can underestimate SCE's overall risk. For example, using FWDs limits the analysis

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[25] SCE 2026-2028 Base WMP, R2, pages 78.

[26] Response to Data Request 2.

[27] SCE 2026-2028 Base WMP, R2, pages 85-87.

[28] SCE 2026-2028 Base WMP, R2, page 87.

[29] SCE 2026-2028 Base WMP, R2, page 73.

[30] SCE 2026-2028 Base WMP, R2, page 81.

to extreme weather days, which will underestimate the total risk profile from wildfires as it ignores the risk contribution on more moderate days. While risk may be more significant on extreme weather days, given that some historical catastrophic fires have occurred on more moderate days,[31] it is important that SCE ensure that it captures a full understanding of such risk throughout its system. The approaches to the selection of meteorological scenarios used to calculate risk, such as SCE's use of FWDs and FCZs, must be discussed with the other electrical corporations and the Risk Modeling Working Group (RMWG), as described in area for continued improvement SCE-26B-06: Collaboration on Meteorological Scenarios.

5.1.2.3 Simulation Duration

SCE lags behind PG&E and SDG&E in implementation of more comprehensive simulations when evaluating the burn duration. Specifically, SCE still uses 8-hour simulations to determine High Consequence Areas.[32] SCE stated that it is still in the process of considering using mean value consequences based on 24-hour simulations,[33] because using 24-hour simulations would "result in a larger area being designated as high consequence and application of mitigations."[34] A large area designated as high consequence can often be identified within an 8-hour simulation, particularly given that many catastrophic fires spread quickly after ignition, and much of the initial damage occurs during the initial burn. However, a 24-hour simulation can provide a broader, clearer understanding of the overall potential risks because fires typically continue to burn beyond 8-hours.

Given SCE's slower adoption of 24-hour simulations relative to PG&E and SDG&E, the fact that SCE has been evaluating wildfire spread beyond 8-hours over multiple WMP periods,[35] and the potential for larger areas to be designated as high consequence under 24-hour simulations, SCE's WMP must clarify how the different simulation durations are used in SCE's risk modeling approach. This clarification must provide a specific discussion of the criteria used in selecting which duration is appropriate and justification of these criteria. Energy Safety provides requirements for reporting the progress for SCE's transition to 24-hour simulations in area for continued improvement SCE-26B-01: Ongoing Evaluation and Implementation of 24-hour Simulations.

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[31] Examples include the Bobcat Fire (2020) and the LNU Lightning Complex fires (2020), which were both heat-driven events that were not directly linked to extreme wind events.

[32] SCE 2026-2028 Base WMP, R2, pages 57-58.

[33] Response to Data Request 2.

[34] SCE 2026-2028 Base WMP, R2, Table 13-1: SCE Lessons Learned, page 487.

[35] Decision on SCE's WMP 2022 Update, page 38.

5.1.2.4 Consequence Scaling Factors

SCE does not include egress as a consequence scaling factor directly within its risk modeling nor through its calculation of risk scores. SCE stated it adjusts the safety risk scores based on an Access and Functional Needs (AFN) multiplier, but SCE does not consider egress constraints in its risk modeling analysis.[36] Inclusion of egress within a risk model is important because egress presents real constraints for evacuations during fast moving fires, and therefore increases wildfire consequence for the potential loss of life. Electrical corporations, including PG&E, are still in the process of integrating egress into risk modeling, with others also using similar multipliers such as AFN to provide an approximation to the risk contributions of egress.[37] Given the ongoing development for an understanding of how to model risks related to egress and SCE's incomplete integration of egress into its risk calculations, SCE must collaborate with other large electrical corporations through area for continued improvement SCE-26B-05.Quantification of Wildfire Consequence Scaling Factors.

5.1.3 Risk Scenarios

The WMP Guidelines requires an electrical corporation to describe scenarios it uses in its risk analysis, i.e., risk scenarios.[38] Extreme event scenarios are one of the two types of risk scenarios that must be included in an electrical corporation's WMP.[39] In its 2026-2028 Base WMP, SCE updated its extreme event scenario planning in two notable ways. SCE prioritized weather station installations and extended its extreme event scenario planning from 2030 to 2050.

By adding additional weather scenarios, SCE should be able to obtain a more granular understanding of variations in weather and wind patterns across its service territory and be able to better predict where high wind gusts will occur in the future based on historical trends. Additionally, by extending its extreme event scenario out to 2050, SCE should be able gain a more holistic understanding of climate change impacts and better plan for long-term mitigation solutions based on future wildfire risks. Both of these improvements will help SCE better identify wildfire risks across its service territory and mitigate based on identified localized risks.

Prioritizing Weather Station Installations

In its 2026-2028 Base WMP, SCE stated that it updated its extreme event scenario planning through prioritizing weather station installations and therefore collects more granular data. SCE stated that it "prioritized weather station installations on HFRA circuits that were most

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[36] SCE 2026-2028 Base WMP, R2, pages 69 and 95.

[37] PG&E 2026-2028 Base WMP, R2, page 57.

[38] WMP Guidelines, page 40.

[39] WMP Guidelines, page 40.

likely to exceed, or had most often exceeded, PSPS wind thresholds."[40] SCE also confirmed that, as of January 2025, it has over 1,780 weather stations in its HFRA and 1,450 weather station capable of relaying 30-second, real-time reads.[41] SCE's continued use of these weather stations will provide more granular data. This data should help SCE have a better understanding of weather and wind patterns, including magnitude and frequency, throughout its territory. More granularity on high wind gusts in particular will help SCE develop extreme weather scenarios and weather modeling because this data provides a more accurate understanding of where extreme weather patterns are already occurring to predict weather trends moving forward.

Extension of Extreme Event Scenario Planning from 2030 to 2050

SCE is evaluating its wind scenario modeling approaches to improve its extreme event scenario planning. In its 2023-2025 Base WMP, SCE stated that it wanted to consider how to improve its approaches to wind scenario modeling based on its updated weather data, including leveraging its weather station network.[42]

In its 2023-2025 Base WMP, SCE included an extreme event scenario to evaluate the impact climate change would have on dead fuel moisture by 2030.[43] Energy Safety's Decision on SCE's 2023-2025 Base WMP found that SCE had not considered rare but foreseeable risks and required improvement in its 2026-2028 Base WMP.[44] In its 2026-2028 Base WMP, SCE stated that it modeled three extreme event scenarios extending beyond 2030, including Climate Change 2050 (Wind), Climate Change 2050 (Weather), and Vegetation Condition 3.[45] SCE explained that it plans to use the Wind and Weather scenarios to build a climatological assessment for 2050 that should help inform its FCZ calculations.[46] The Vegetation Condition 3 scenario is based on existing grid hardening fuel maps from 2035.[47]

Using the Climate Change 2050 event scenarios, SCE will conduct a Climate Change Pilot and is required to report the results in a 2026 whitepaper, concurrent with its Climate Change Vulnerability Assessment (CAVA) and RAMP filings.[48] SCE stated it is currently in the process of integrating the results of these findings into its risk modeling approach, but does not have a

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[40] SCE 2026-2028 Base WMP, R2 pages 387-388.

[41] SCE 2026-2028 Base WMP, R2, page 387.

[42] SCE 2023-2025 Base WMP, R3.1, page 178.

[43] SCE 2023-2025 Base WMP, R3.1, page 155.

[44] Decision on SCE 2023-2025 Base WMP , pages 83-84.

[45] SCE 2026-2028 Base WMP, R2, page 118.

[46] SCE 2026-2028 Base WMP, R2, page. 118.

[47] SCE 2026-2028 Base WMP, R2, page. 118.

[48] SCE 2026-2028 Base WMP, R2, page 119.

targeted timeline for implementation.[49] As SCE continues to develop its extreme scenarios, it must further evaluate how it will incorporate extreme wind events, given SCE's recent rollout of probability distributions and tail risks, as discussed in Section 5.1.2 of this Decision. Energy Safety will monitor SCE's progress via areas for continued improvement SCE-26B-06: Collaboration on Meteorological Scenarios and SCE-26B-02: Further Evaluation of Climate Impact on Extreme Event Scenarios.

5.1.4 Quality Assurance and Quality Control

5.1.4.1 Transmission Asset Risk Models

SCE improved its data validation methods over the last few WMP cycles and is in the process of validating its method of capturing transmission assets within its risk models and identifying transmission-associated risk.

In 2022, SCE started validation of its risk models for transmission assets.[50] SCE's validation compared transmission assets identified as risky by its risk model against assets identified as risky by a Transmission Senior Patrolman during their inspection.[51] SCE also uses its risk model to inform transmission inspections and continues to use inspections as a feedback loop to inform its transmission model based on in-field risk assessment of the assets SCE is inspecting.[52] This includes having the inspectors complete an in-field questionnaire to calibrate whether or not risk levels are ranked appropriately within the transmission inspection survey.[53]

While these validation processes demonstrate an improvement in SCE's assessment of its comprehensive risk for its transmission assets, SCE did not discuss any changes to this validation of the risk models for transmission assets in its 2026-2028 Base WMP, and only referenced the 2022 initiation of the transmission inspection process.[54] Given that SCE made changes to its risk model in the years since 2022, the validation processes may have also changed to verify the accuracy of the changes to the risk models. Additionally, SCE uses

[49] Response to Data Request 20.

[50] Response to Data Request 8.

[51] SCE 2026-2028 Base WMP, R2, page 142.

[52] SCE 2026-2028 Base WMP, R2, page 142.

[53] SCE 2026-2028 Base WMP, R2, page 142.

[54] SCE 2026-2028 Base WMP, R2, page 142.

separate processes to validate areas that are identified as high risk in its transmission system, compared to its distribution validation, which only has one process.[55]

In order for SCE's model frameworks to perform as intended and produce reliable outputs, as well as support transparency, reproducibility, and continuous improvement, SCE must ensure all models are properly and consistently validated and verified. SCE should include an update on the status of the validation of the risk models, including for its transmission assets, in its next WMP Update, as part of the improved documentation required in area for continued improvement SCE-26B-03: Development of Substantive Model Documentation.

5.1.4.2 Independent Review of Risk Models

The WMP Guidelines require an independent review of WMP submissions.[56] Both PG&E and SDG&E included an independent review procedure in each 2026-2028 Base WMP submission.[57, 58] In contrast to PG&E and SDG&E, SCE continues to make slow progress with its external third-party independent reviews of its risk models. SCE stated in its 2026-2028 Base WMP that it does not conduct external third-party reviews of data collection and risk models even though SCE had conducted these reviews in 2022.[59]

In the Revision Notice, Energy Safety included critical issue RN-SCE-26-03 that required SCE to submit a plan for third-party review of its risk models as required by the WMP Guidelines. In its Revised 2026-2028 Base WMP, SCE described components that are planned for independent review, anticipating that some may be reviewed throughout 2026.[60] This response complies with the requirements of RN-SCE-26-03 because SCE included a plan for review and a scope of work. However, given that the review is not complete, SCE's slow adoption of third-party review, and the early stages of its review process, Energy Safety requires SCE to report its progress with area for continued improvement SCE-26B-07: External Third-Party Independent Reviews. This is also discussed further in Section 5.3.2, SCE-26-03: SCE's Risk Methodology Lacks Independent Review.

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[55] SCE validated its distribution assets by including a set of risk assessment questions into the Distribution High Fire Risk-Informed inspections (HFRI) detailed inspection survey form to gather inspector feedback on whether they support or disagree with the riskiness of the asset as identified by SCE's risk model. (SCE 2026-2028 Base WMP, R2, page 142.)

[56] WMP Guidelines, page 56.

[57] PG&E 2026-2028 Base WMP, R2, pages 104-105.

[58] SDG&E 2026-2028 Base WMP, R2, pages 62-65.

[59] SCE 2026-2028 Base WMP, R2, pages 139-141.

[60] SCE 2026-2028 Base WMP R2, pages 139-141.

5.2 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to risk methodology and assessment where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

5.2.1 SCE-25U-01. Calculating Risk Scores Using Maximum Consequence Values

For this area for continued improvement, Energy Safety required SCE to continue to evaluate the use of probability distributions and probabilistic models instead of maximum consequence, including conducting a pilot that applies probabilistic distributions in place of maximum consequence in SCE's risk models in its 2026-2028 Base WMP.[61]

5.2.1.1 SCE-25U-01: Response Summary

In its 2026-2028 Base WMP, SCE reported that it continues to use maximum consequence values, as opposed to probability distributions, to aggregate risk scores.[62] SCE clarified that it uses maximum consequence natural units based on truncated (8-hour and 24-hour) simulation times to calculate risk for the prioritization of grid hardening activities.[63] However, SCE also implemented a quasi-probabilistic modeling method with its new FWD selection process as discussed in Section 5.1.2. of this Decision.

5.2.1.2 SCE-25U-01: Energy Safety Evaluation

SCE provided the documentation required by Energy Safety. However, SCE's testing for its quasi-probabilistic modeling method is ongoing and does not demonstrate full integration of probabilistic distributions, particularly toward linking consequence distributions to likelihood distributions of fire weather and extreme weather events. SCE must continue to evaluate the use of probability distributions and probabilistic models instead of maximum consequence, including continuing to conduct a pilot that applies probabilistic distributions in place of maximum consequence in SCE's risk models. As such, SCE must continue to improve in this area as outlined in area for continued improvement SCE-26B-06: Collaboration on Meteorological Scenarios.

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[61] Decision on SCE 2025 WMP Update, page 50.

[62] SCE 2026-2028 Base WMP R2, page 88.

[63] SCE 2026-2028 Base WMP R2, page 579.

5.2.2 SCE-23B-04. Incorporation of Extreme Weather Scenarios into Planning Models

For this area for continued improvement, Energy Safety required SCE to report on its progress to develop statistical estimates of potential wind events over the maximum asset life of its system, and to evaluate the results of incorporating that approach into the MARS and IWMS frameworks.

5.2.2.1 SCE-23B-04: SCE Response Summary

In its 2026-2028 Base WMP, SCE reported it relies on its new FWD selection methodology, which uses a 40-year historically observed data set of extreme wind frequency and fuel conditions, and therefore further evaluates potential extreme wind events.[64] SCE stated that its FWD selection methodology, in addition to utilizing a 40-year historical climatology, also includes wind gusts with a 300-year return interval.[65] SCE stated that its new FWD selection methdology is incorporated into its MARS and IWMS.[66]

5.2.2.2 SCE-23B-04: Energy Safety Evaluation

SCE's expansion of its FWD methodology, which includes a worst-case scenario in its planning models, meets Energy Safety's requirements for documented progress in SCE-23B-04. However, as discussed in Section 5.1.2.2 of this Decision, SCE's update to its risk calculation consisted of changes to how it calculates both LoRE and CoRE. Instead of using burn likelihood to account for the magnitude of its wildfire risk, SCE's new FWD selection methodology is quasi-probabilistic, and weather statistical distributions used may not be the same between the likelihood and consequence analyses, which may underestimate SCE's overall risk. SCE must continue to progress towards evaluating and understanding extreme weather events, and further consideration is required as part of SCE-26B-06: Collaboration on Meteorological Scenarios.

5.3 Revision Notice Critical Issues

Energy Safety issued SCE a Revision Notice for its 2026-2028 Base WMP. This section evaluates SCE's response to that Revision Notice as it relates to risk methodology and assessment.[67]

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[64] SCE 2026-2028 Base WMP, R2, page 581.

[65] SCE 2026-2028 Base WMP, R2, page 114.

[66] SCE 2026-2028 Base WMP, R2, page 581.

[67] Revision Notice for SCE 026-2028 Base WMP, pages 5 – 9.

5.3.1 RN-SCE-26-01. SCE's Severe Risk Area Increase Lacks Explanation

In the 2026-2028 Base WMP SCE initially submitted on May 16, 2025, SCE did not provide a reason for including newly-identified circuit miles into the SRA, nor for the recategorization of circuit miles within its SRAs. In the Revision Notice, Energy Safety required SCE to revise its 2026-2028 Base WMP to include a table showing the breakout of IWMS categories by circuit mileage that SCE is using for its 2026-2028 Base WMP mitigation planning, and an explanation for the changed number of circuit miles within its SRA from its 2023-2025 Base WMP to its 2026-2028 Base WMP that led to an increase in SRA mileage between the two submissions.

5.3.1.1 RN-SCE-26-02: SCE Response Summary

In its Revision Notice Response, SCE provided *Table SCE 5-02a – Circuit Miles Per IWMS Risk Tranche* with the breakout of circuit mileage for each IWMS category as requested by Energy Safety.[68] SCE added a discussion of what processes led to changes in SRA circuit mile allocations, including SME-led analyses of local conditions and changes to SRA criteria. SCE also compared the 2026-2028 circuit mile breakouts to the 2023-2025 breakouts.[69]

5.3.1.2 RN-SCE-26-02: Energy Safety Evaluation

Energy Safety finds that SCE resolved this critical issue. Energy Safety's concern was a lack of clarity in how the mileage changed between various SRA subcategories and the inconsistency with the overall mileage listed between its WMPs. SCE's additional explanation on the overlap between subcategory's mileage along with the table resolved this concern.

5.3.2 RN-SCE-26-03. SCE's Risk Methodology Lacks Independent Review

Although the WMP Guidelines require electrical corporations to include a plan for independent third-party review of its data collection and risk modeling, SCE did not include such a plan.[70] Therefore, Energy Safety required SCE to revise its 2026-2028 Base WMP to provide a plan for an independent review of its risk models that included evaluation of specific variables relevant to SCE's updates to its risk models since the last WMP

[68] SCE 2026-2028 Base WMP, R2, page 61.

[69] SCE 2026-2028 Base WMP, R2, Table RN-SCE-26-02 – Circuit Miles Per IWMS Risk Tranche by Recent WMP Cycle, page 62.

[70] WMP Guidelines, page 56.

submission.[71] SCE was also required to provide an implementation timeline and documentation demonstrating progress towards completing this independent review.[72]

5.3.2.1 RN-SCE-26-03: SCE Response Summary

In its revised 2026-2028 Base WMP, SCE provided an expanded plan for independent review in Section 5.6.1 as well as confirmation of either ongoing or planned independent reviews for each of the components identified by Energy Safety. The independent reviews of the components that feed into SCE's probability of failure models and FPI model have not yet been completed, but are anticipated to be completed at the end of Q1 2026.[73] Given that SCE is still in the process of engaging reviewers to complete the other independent reviews, SCE did not provide a defined timeline for completion.

5.3.2.2 RN-SCE-26-03: Energy Safety Evaluation

Energy Safety finds that SCE has de-escalated this critical issue to an area for continued improvement. SCE provided the information required in response to the Revision Notice. Energy Safety now requires SCE to provide additional reporting as independent reviews continue, as discussed further in Section 5.1.4.2. These requirements and reporting of independent reviews are provided in area for continued improvement SCE-26B-07: External Third-Party Risk Model Review.

5.4 Areas for Continued Improvement for Future WMP Submissions

As discussed above, Energy Safety has identified areas pertaining to risk methodology and assessment where the electrical corporation must demonstrate improvement in a future, specified WMP submission. This section sets forth the requirements for improvement.

5.4.1 SCE-26B-01. Ongoing Evaluation and Implementation of 24-hour Simulations

Summary: SCE is evaluating and implementing 24-hour simulations for wildfire consequences. It is unclear from SCE's 2026-2028 Base WMP what components of SCE's risk models are expected to transition to a 24-hour simulation. Given the potential for larger areas to be designated as high consequence with this transition from 8-hour to 24-hour simulations, the WMP must clarify how the different simulation durations are used in SCE's

[71] Revision Notice, pages 8-9.

[72] Revision Notice, pages 8-9.

[73] SCE 2026-2028 Base WMP, R2, pages 139 – 143.

risk modeling approach. This clarification must provide a specific discussion of the criteria used in selecting which duration is appropriate and a justification of these criteria.

Requirements: In its next WMP Update, SCE must:

- Provide a description of the planned use of 8-hour and 24-hour simulations in the wildfire consequence model.
- Document the verification and validation basis of the 24-hour simulation approach.

Discussed in: Section 5.1.2.3 Simulation Duration

Appendix C provides a consolidated list of areas for continued improvement and requirements.

5.4.2 SCE-26B-02. Further Evaluation of Climate Impact on Extreme Event Scenarios

Summary: Many large electrical corporations and small and multi-jurisdictional utilities (SMJUs) are currently evaluating climate change impacts up to 2030, which is only two years past this 2026-2028 WMP cycle. This limits the understanding of maximizing risk benefit over an asset's lifetime, which far exceeds the timeframe in current climate change evaluations. The electrical corporations would likely benefit from collaborating on each corporation's climate change impact modeling, and determining the best way to calculate and integrate climate change into wildfire risk models. SCE is valuable to this collaboration because SCE models climate change impacts beyond 2030.

In its 2026-2028 WMP, SCE developed an extreme event scenario looking at a synthetic year 2050 gridded climatology. The Climate Change 2050 (Wind and Weather) extreme event scenario is intended to provide insights into how forecasted conditions due to climate change may affect utility risk assessments. While SCE will be incorporating Global Climate Models to represent 2.0°C of warming in their analysis, it is unclear how this change impacts its risk model.

Requirements: In its next Base WMP SCE must:

- Provide a joint report with the other large electrical corporations and SMJUs evaluating the potential climate change impacts on wildfire risk over a fifty-year period to better understand potential risk reduction when implementing mitigations. This report must include identification of variables impacted by climate change and how those variables impact risk modeling of wildfire risk. At a minimum, these variables must include:
    - Extreme wind events
    - Extreme drought impacts
    - Vegetation pattern changes
    - Wildfire pyrome identification and boundary changes

- As part of the Risk Modeling Working Group and as directed by Energy Safety, contribute to discussions and reports on topics such as how the joint study impacted SCE's risk modeling efforts and how SCE plans to implement any changes and findings discussed regarding climate change.

Discussed in: Sections 5.2.2.2 SCE-23B-04: Energy Safety Evaluation, and 5.1.3 Risk Scenarios

Appendix C provides a consolidated list of areas for continued improvement and requirements.

5.4.3 SCE-26B-03. Development of Substantive Model Documentation

Summary: Several of the large electrical corporations and SMJUs do not currently have detailed technical documentation for all models and data sets used for risk analysis, including probability of failure, probability of ignition models, consequence models, weather models, and fuel models. While SCE provides details on its methods and validation documentation for its risk models, it does not provide adequate documentation of its ongoing efforts and verification.

Through the 2026-2028 Base WMP and data requests, SCE provided detailed documentation for its wildfire risk model and probability of ignition sub-models. However, improvements still need to be made, such as providing more detailed model documentation for differences in handling transmission system assets in the risk model. As required in the WMP Guidelines,[74] SCE must be able to provide this detailed documentation upon request by Energy Safety.

Requirements: In its WMP Update SCE must:

- A detailed description of its risk models, including assumptions or statistical approaches used for the risk models. This must include an explanation for any assumptions and scaling factors used;
- A detailed description of datasets used for modeling probability of ignition, consequence, weather, and fuels; including sources for data and why each dataset was included; and
- A description of the verification and validation approaches of each model, including any available results.

Discussed in: Section 5.1.4.1 Transmission Asset Risk Models

Appendix C provides a consolidated list of areas for continued improvement and requirements.

[74] WMP Guidelines Appendix B, Page B-6.

5.4.4 SCE-26B-04. Sensitivity Analysis for Risk Averse Scaling

Summary: SCE has documented that its IWMS program (which only factors in consequence) is used to augment its MARS methodology (which considers likelihood and consequence) for mitigation and high-risk area selection.[75] Given the significant impact such scaling may have on a large electrical corporation's decision-making, large electrical corporations must collaborate to evaluate the impact of attribute function scaling on mitigation planning.

Requirements: In its next Base WMP SCE must:

- Collaborate with other large electrical corporations to establish which (if any) attributes are appropriate to apply scaling functions and an appropriate range or magnitude for each proposed scaling function.
- Complete a sensitivity analysis to determine how risk-averse approaches affect efficacy calculations or impact mitigation selection (e.g. selection of high-risk areas, selection of either covered conductor and undergrounding), and report the results of the analysis in the WMP.
- Discuss any differences in its mitigation strategy from using various risk-scaling strategies.

Discussed in: Sections 5.1.1 Risk Methodology, and 5.1.2.1 Monetization of Risk Models

Appendix C provides a consolidated list of areas for continued improvement and requirements.

5.4.5 SCE-26B-05. Quantification of Wildfire Consequence Scaling Factors

Summary: Large electrical corporations are currently exploring the use of indices and data to provide a more accurate estimate of damage or loss of life resulting from a wildfire reaching a location. These methods vary significantly among electrical corporations and lack documented validation basis. For example, some large electrical corporations have adopted or are exploring the use of TDI (terrain difficulty index) factor or BLF (building loss factor) to more accurately capture the actual number of buildings destroyed and scale wildfire consequence scores. [76, 77] Large electrical corporations must discuss and benchmark their use of scaling and indices when calculating the consequence of a wildfire at a location while considering social vulnerability and the availability of suppression resources and infrastructure.

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[75] SCE 2026-2028 Base WMP, R2, page 152.

[76] PG&E, Consequence Model Documentation, Page 7.

[77] SCE 2026-2028 Base WMP, R2, page 91.

SCE currently incorporates an egress model in its IWMS program, however the model does not impact calculation of risk scores, and SCE instead relies on AFN and subject matter expertise to impact decision-making.[78] SCE is currently exploring the use of a third-party software's BLF.[79]

Requirements: In its next Base WMP SCE must:

- Provide its methods that account for social vulnerability or population demographics within wildfire consequence or demonstrate there is no variability across circuits even if factors such as AFN designation, Social Vulnerability Index, age of structures, or firefighting capacities are included in consequence modeling.
- Provide its methods that account for suppression impacts, such as development or adoption of an index to represent what fraction of impacted buildings will be destroyed.
- Discuss how those methods impact overall risk.
- Provide a summary of its collaboration with other large electrical corporations to benchmark the impacts of adopting consistent factors or indices that represent egress, suppression effectiveness, or realistic damage that adjust consequence scores (such as road constraint indices, terrain difficulty indices, or building loss factors). This summary must include discussions on the following topics:
    - Which factors and indices were evaluated;
    - How the factors and indices evaluated are relevant to the conditions in California and how inclusion of these factors and indices better reflect reality;
    - Minimum considerations or agreed-upon conventions established from collaboration with other electrical corporations for including the index or factor within consequence (i.e., egress analysis accounts for features such as road constraints, AFN, population density, etc.).
    - Why the electrical corporations have not already captured such factors and indices through other implemented risk analyses;
    - The impact that the new factors and indices have on overall utility risk and territory-wide relative distributions of risk, along with implications for mitigation or HFTD selection; and
    - What changes were made or planned for each respective electrical corporations' risk modeling methodologies as a result of the collaboration, including changes to or added implementation of factors and indices, as well

[78] SCE 2026-2028 Base WMP, R2, pages 50 and 98.

[79] SCE 2026-2028 Base WMP, R2, pages 94 and 149.

as any differences between electrical corporations' methodologies and why such differences persist.

Discussed in: Section 5.1.2.4 Consequence Scaling Factors

Appendix C provides a consolidated list of areas for continued improvement and requirements.

5.4.6 SCE-26B-06. Collaboration on Meteorological Scenarios

Summary: The weather scenarios used by the large electrical corporations and SMJUs in the calculation of probability and consequences vary significantly. The scenarios vary in the size of the historical record, how fire weather days are determined, and how the data is pruned for simulations.

Most of the large electrical corporations and SMJUs use a territory-wide set of weather days to run fire behavior models that estimate the consequence for each ignition point. In its 2026-2028 Base WMP, SCE describes how it only uses fire weather days relevant to an ignition point's climate zone to run wildfire behavior simulations, and those fire weather days are used to estimate a historical frequency of certain "fire behavior outcomes."[80] By combining the frequency of fire behavior outcome conditions with simulated consequences, SCE derives a quasi-probabilistic distribution of risk at each ignition point.[81] This method attempts to correlate a historical weather frequency to consequence, though the weather days and profiles may not be the same between the likelihood and consequence distributions.

Requirements: In its next Base WMP SCE must:

- Define the historical period and fire weather days used for developing meteorological scenarios. Describe criteria for selection and justify exclusion of years and days outside of the selected dataset if that data would include historical extreme wind gusts or other extreme conditions. Demonstrate how the fire weather days used in the likelihood calculation are consistent with those used in the consequence calculation.
- Demonstrate how distributions developed using a Monte Carlo simulation method within the consequence risk model account for extreme weather events that are not included within the referenced historical period. For example, demonstrate how SCE's fire weather day approach produces a distribution of predicted fire size that aligns with historical distributions and includes significant tail risks.
- Collaborate with other electrical corporations via participation in RMWG to develop and summarize standardized extreme event scenarios, common calculation methods on the likelihood of occurrence, and a common approach to selecting weather

[80] SCE 2026-2028 Base WMP, R2, pages 84-87.

[81] SCE 2026-2028 Base WMP, R2, pages 87-88.

scenarios (wind, moisture, fuels, etc.) to calculate consequences. Once developed, implement the standardized approaches into the WMP, or discuss why other approaches are taken if not using the agreed upon approaches.

- Evaluate and provide an analysis of the sensitivity of the total risk in its service territory, including the risk impact of extreme event scenarios. This sensitivity analysis must also evaluate the impact of mitigations on extreme events.

Discussed in: Sections 5.2.2.2 SCE-23B-04: Energy Safety Evaluation, 5.1.3, 5.1.2.2 Risk Calculation Updates, and 5.2.1.2 SCE-25U-01: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

5.4.7 SCE-26B-07. External Third-Party Risk Model Review

Summary: Section 5.6.1 of the WMP Guidelines requires electrical corporations to "document the procedures it uses to confirm that the data collected and processed for its risk assessment are accurate and comprehensive." Electrical corporations are required to include independent reviews of data collection and risk modeling approaches.

As documented in SCE's 2026-2028 base WMP, "SCE does not currently conduct external third-party independent reviews of data collected and risk models." While SCE provided details on obtaining and beginning an external review of its risk models in response to the Revision Notice, SCE must continue to demonstrate progress towards completion of its risk model review. External verification and validation are an important component of quality assurance and quality control of risk models.

Requirements: In its next Base WMP Update, SCE must:

- Provide an update on its progress for external third-party review. The progress update must include:
    - Milestones and timelines for completion, including progress for each milestone.
    - Copies of any completed report(s) covering the analysis completed by the independent reviewer.
    - Descriptions of any findings identified by the independent reviewer and SCE's plan to address the findings, including timeline for SCE to address each finding.
        - If SCE declines to address a finding, SCE must explain its reason.
    - Specific updates on the review of each of the following components of the risk model, as required in RN-SCE-26-03:
        - Burn probability
        - Fire weather days
        - Fire climate zones

    - Custom fuels and fuel adjustment processes
    - Incorporation of PEDS risk
    - Other components deemed necessary by the external third-party reviewed
- Provide a description of the scope of the review and the routine review schedule for future external third-party reviews of its risk models moving forward.

Discussed in: Sections 5.1.4.2 Independent Review of Risk Models, 5.3.2.2 RN-SCE-26-03: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

6. Wildfire Mitigation Strategy Development

Chapter III, Section 6 of the WMP Guidelines requires the electrical corporation to provide a high-level overview of the risk evaluation process that inform its selection of a portfolio of initiative activities, as well as its overall wildfire mitigation strategy.[82] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

6.1 Discussion

This section discusses Energy Safety's evaluation of the wildfire mitigation strategy development section of the SCE 2026-2028 Base WMP.

SCE takes a comprehensive approach to its mitigation selection decision-making. SCE uses two risk model frameworks to select mitigations: its MARS framework to assign risk scores across its system, and its IWMS framework to categorize risk areas based on consequence. SCE made improvements to its IWMS framework, including updating how the framework categorizes and selects mitigations. SCE also uses its IWMS framework outputs to inform and plan inspections.[83] Additionally, SCE attempts to use complementary mitigations to address risk drivers at individual locations, such as covered conductor installation in combination with REFCL.

This demonstrates that SCE is working towards taking a comprehensive approach to its wildfire mitigation strategy and continually refining its selection and prioritization of risk in its service territory. However, to ensure these efforts result in risk-informed mitigation selection,, SCE should consider incorporating ignition likelihood in its IWMS framework and gain a better understanding of mitigation effectiveness calculations as discussed below.

6.1.1 Methodology

SCE improved how its IWMS framework categorizes risk areas and selects risk mitigation tools such as covered conductor and undergrounding. However, given that the IWMS framework may oversimplify the mitigation selection process, SCE must provide further reporting on how it identifies location-specific risks and considers ignition likelihood in the IWMS framework.

In its 2026-2028 Base WMP, SCE used the IWMS framework to categorize areas based on risk into three categories: SRA, High Consequence Areas, and Other HFRA, of which SRA is the

[82] Pub. Util. Code §§ 8386(c)(3), (12)-(14).

[83] SCE 2026-2028 Base WMP, R2, pages 278-279.

highest risk.[84] SCE states that the IWMS determines risk categories based on location-specific factors.[85]

The IWMS framework uses four criteria to determine whether an HFRA area falls within the SRA category: fire risk egress constrained areas, significant fire consequence, high winds, and communities of elevated fire concern. SCE stated that it prefers to use undergrounding for locations in the SRA unless those areas have already been hardened through covered conductor, or those areas contain terrain unconducive to undergrounding.[86] The criteria used for SRA categorization, and SCE's preference to use undergrounding in the SRA, may lead to an oversimplification of the mitigation selection process.

Despite SCE's statement that the IWMS framework determines risk categories based on location-specific factors, not all SRA criteria are associated with local ignition risk drivers. For instance, an area may not have many trees posing risks near electrical equipment. Therefore, that area would have lower risk drivers associated with vegetation, a situation which is not currently directly accounted for through SCE's IWMS framework. Furthermore, SCE's selection method does not tailor mitigation solutions to local ignition risk drivers. This oversimplification in SCE's mitigation selection process, coupled with the IWMS framework's lack of location ignition drivers, may lead to SCE selecting inefficient wildfire mitigations that do not appropriately address wildfire risks in a particular location. SCE must report on how it considers factors, in addition to risk categories, and how it uses a tailored location-specific approach that evaluates overall utility risk to determine mitigation selection, as outlined in area for continued improvement SCE-26B-08: Incorporation of Ignition Risk into SCE's IWMS Framework.

6.1.2 Wildfire Mitigation Strategy

6.1.2.1 Risk Model Outputs and the IWMS Framework

While SCE uses its IWMS framework outputs to select and prioritize selected projects, its selection process contains inherent flaws that SCE must address.

Usage of IWMS Framework to Select and Prioritize Selected Projects

In its 2026-2028 Base WMP, SCE reported using its risk model outputs in several ways to address system risk and provide more direct corrective actions. In some instances, this could be an effective use of SCE's risk model outputs. For example, SCE stated that it uses its risk model outputs to inform prioritization of hardening projects once projects are selected via

[84] SCE 2026-2028 Base WMP, R2, page 50.

[85] SCE 2026-2028 Base WMP, R2, page 50.

[86] SCE 2026-2028 Base WMP, R2, page 180.

the IWMS framework.[87] SCE also reported that it uses risk model outputs to inform and plan inspections.[88]

These examples demonstrate that such uses of SCE's risk model outputs could be effective because it shows that SCE considers the importance of ignition risk through direct corrective actions.[89] For instance, knowing the health of the assets helps identify areas that may require additional monitoring or that need equipment replacement.[90] However, given that ignition risk is not integrated into calculating overall utility risk for the purpose of mitigation selection, effectiveness in mitigation selection may be hampered or diminished by SCE's IWMS Framework's selection process. Energy Safety discusses the specific requirements for SCE in area for continued improvement SCE-26B-09: Joint Study for Mitigation Activity Effectiveness Estimates.

Limitations in the IWMS Framework Selection Process

While SCE's use of its risk model outputs could be an effective method of addressing system risk, the IWMS framework's selection process contains limitations that SCE must address first to accurately address system wildfire risk. These flaws include the IWMS framework's focus on wildfire consequence and that it doesn't account for ignition likelihood or address areas of highest wildfire risk in SCE's system.

First, as noted in Section 5.1.1, the IWMS framework focuses on wildfire consequence to inform its decisions instead of looking at overall utility risk.[91] SCE stated that it relies on wildfire consequence in part because the ignition risk portion of the framework is dynamic in nature.[92] However, ignition risk is important to understand the direct actions SCE can take to reduce wildfire risks associated with SCE's equipment. Without understanding where ignitions are more likely to occur, mitigations may be prioritized in areas of lower ignition risk before areas of higher ignition risk, because the categorization is primarily based on consequence. SCE also states that that some of the criteria used within the IWMS framework are not currently captured in the risk model such as egress and community vulnerability.[93] SCE must work to integrate these risks into its risk modeling in order to properly account for and scale risks.

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[87] SCE 2026-2028 Base WMP, R2, page 154.

[88] SCE 2026-2028 Base WMP, R2, pages 278-279.

[89] SCE 2026-2028 Base WMP, R2, pages 278-279.

[90] SCE 2026-2028 Base WMP, R2, Table SCE 8-01: Equipment Maintenance and Repair Strategy, pages 293-298.

[91] SCE 2026-2028 Base WMP, R2, page 39

[92] SCE 2026-2028 Base WMP, R2, page 39.

[93] SCE 2026-2028 Base WMP, R2, page 39.

Second, SCE has not demonstrated that its IWMS framework properly identifies and addresses the areas of highest wildfire risk across its system. Overall utility wildfire risk, as calculated through the MARS framework, considers both ignition risk and wildfire consequence.[94] As a result of SCE prioritizing based on consequence, there is little correlation between the highest risk circuits (even on a per mile basis) from the MARS framework risk score outputs and where grid hardening is planned to occur based on the IWMS framework. Only five of the top 49 riskiest circuits have covered conductor installation or undergrounding planned from 2026 to 2028, per *Table 6-4: SCE Summary of Risk Reduction for Top Risk Circuits*.[95] This means that SCE is not prioritizing based on areas of highest overall utility risk, and may be leaving known areas of high risk unaddressed across its system.

To effectively address system wildfire risk, SCE must work to integrate its overall utility risk calculations into its decision-making framework and ensure that ignition likelihood is considered as part of its mitigation selection process, as detailed in area for continued improvement in SCE-26B-08: Incorporation of Ignition Risk into SCE's IWMS Framework.

6.1.2.2 Effectiveness Calculation

SCE does not provide adequate insight into what accounts for the lower covered conductor effectiveness score compared to its previous WMPs. In *Table 6-3: Preferred Mitigation Portfolio per Risk Tranche* of its 2026-2028 Base WMP, SCE provided an effectiveness score of 60 percent for the years 2026-2028, but in previous years the estimated effectiveness score was 72 percent.[96, 97] SCE must provide an explanation for what lowered this effectiveness score. SCE must also work together with other electrical corporations to determine the best methodology moving forward for measuring effectiveness, given the range in results between years. Energy Safety discusses the specific requirements for SCE in area for continued improvement SCE-26B-09: Joint Study for Mitigation Activity Effectiveness Estimates.

6.2 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to wildfire mitigation strategy development where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

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[94] SCE 2026-2028 Base WMP, R2, Figure SCE 5-01: Illustrative Risk Bowtie Consistent with CPUC Risk Informed Decision-Making Framework (RDF), page 46.

[95] SCE 2026-2028 Base WMP, R2, pages 204-208.

[96] SCE 2026-2028 Base WMP, R2, Table 6-3: SCE Risk Impact of Activities, page 198.

[97] SCE 2023-2025 Base WMP, Appendix F7 Joint IOU Working report, page 907.

6.2.1 SCE-25U-02. Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability

For this area for continued improvement, Energy Safety required SCE to continue its collaboration with other electrical corporations and participate in all Energy Safety-organized activities related to climate change, community vulnerability, and utility vegetation management its 2026-2028 Base WMP.[98]

6.2.1.1 SCE-25U-02: SCE Response Summary

In its 2026-2028 Base WMP, SCE provided a response similar to other electrical corporations, which discussed various meetings held covering a range of WMP topics. SCE reported it collaborates with other electrical corporations in monthly meetings, and that it hosted two in-person meetings in 2024.[99] SCE indicated that it participated in industry events for best practices and knowledge expansion.[100] It also stated that it plans to participate in all Energy Safety-organized activities related to climate change forecasts in consequence of modeling.[101]

6.2.1.2 SCE-25U-02: Energy Safety Evaluation

Given the provided list of meetings and demonstration of collaboration across electrical corporations, SCE meets the intended requirements of this area for continued improvement.[102] As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement.

6.3 Areas for Continued Improvement for Future WMP Submissions

As discussed above, Energy Safety has identified areas pertaining to wildfire mitigation strategy development where the electrical corporation must demonstrate improvement in a future, specified WMP submission. This section sets forth the requirements for improvement.

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[98] Decision on SCE 2025 WMP Update, page 52.

[99] SCE 2026-2028 Base WMP, R2, pages 582-583.

[100] SCE 2026-2028 Base WMP, R2, pages 582-583.

[101] SCE 2026-2028 Base WMP, R2, pages 582-583.

[102] Decision on SCE 2025 WMP Update, page 52.

6.3.1 SCE-26B-08. Incorporation of Ignition Risk into SCE's IWMS Framework

Summary: By focusing primarily on the consequence of an ignition rather than integrating the likelihood of an ignition to determine overall risk, SCE's IWMS framework may not be properly identifying and prioritizing mitigations based on the areas with highest overall utility risk.

Requirements: In its WMP Update SCE must provide a reconfigured IWMS framework or an updated decision-making process, and demonstrate that the framework or process:

- Properly accounts for ignition likelihood using overall utility risk scores and ranking risks.
- Chooses mitigations that are most appropriate for highest risk areas based on location-specific ignition risk drivers, and demonstrates such alignment between these mitigations and risk drivers.
- Prioritizes scheduling of planned mitigation implementation based on highest risk areas.

Discussed in: Section 6.1.2.1 Risk Model Outputs and the IWMS Framework

Appendix C provides a consolidated list of areas for continued improvement and requirements.

6.3.2 SCE-26B-09. Joint Study for Mitigation Activity Effectiveness Estimates

Summary: IOUs[103] have varying methodologies and results when evaluating mitigation initiative effectiveness. These differences include variations in available in-field data, which type of data is used to determine effectiveness, and how effectiveness is calculated. Since the 2023-2025 Base WMP, SCE has decreased its estimates for covered conductor effectiveness without providing adequate information about its reasoning and changed methodology.

Requirements: In its next Base WMP, SCE must collaborate with the IOUs to determine more consistent methodologies and evaluations of mitigation activity effectiveness. The IOUs must complete and provide a joint study and report by March 1, 2028, to the 2026-2028 Base WMP Docket (#2026-2028-Base-WMPs), and include that report in their subsequent Base WMP submission. The report must cover the following topics and summary:

- What type of data could be used to determine mitigation activity effectiveness. This topic must include discussions of the following:
    - How to share available data across IOUs,

[103] Here the IOUs include SDG&E, PG&E, SCE, PacifiCorp, and Liberty Utilities.

  - Evaluation of all mitigation activities performed by IOUs listed out with the various current effectiveness estimations being used by IOUs, and discussion of shortcomings for any mitigation activities that do not currently have effectiveness values calculated,
  - Evaluation of the use of ignition vs. outage vs. other data for evaluating ignition risk, including a comparison of benefits and weaknesses,
  - Other ways to augment useable data for any limited data sets, including any shortcomings and potential remedies for increasing accuracy when using additional data, and
  - Evaluation of variations on methodologies used by IOUs for translating data into probability of ignition.
- How IOUs measure effectiveness of mitigation activities against various risk drivers. This topic must include reporting on completion of the following:
  - Synchronization among IOUs on ways to calculate effectiveness of various mitigation activities against various risk drivers, including benefits and weaknesses of IOUs' current approaches as a comparison,
  - Weighting of various risk drivers in terms of associated ignition and wildfire risk, and
  - Summation of various risk driver effectiveness values into overarching effectiveness value.
- How mitigation activity effectiveness is used when determining mitigation prioritization and selection. This topic must include the following:
  - A discussion of the granularity in which effectiveness values are used during mitigation selection based on an evaluation of location-specific risk drivers, including how those drivers are selected and weighted for a given area, and
  - An analysis of how mitigation activity informs and impacts cost-benefit analysis, including a discussion and comparison of any differences on scaling across IOUs.
- How to evaluate mitigation activities in combination. This topic must include reporting on completion of the following:
  - Synchronization among IOUs on potential combinations to include when calculating joint effectiveness estimates,
  - Demonstration that electrical corporations have shared measured in-field effectiveness with one another and have integrated it into overall effectiveness calculations, and
  - Measuring overlapping and added benefit based on evaluation of ignition drivers impacted by various mitigations, including a comparison of IOUs' current efforts.

IOUs must also participate in Energy Safety-led activities, such as workshops or working group meetings, to further consider requirements around effectiveness.

Discussed in: Section 6.1.2.2 Effectiveness Calculation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

7. Public Safety Power Shutoffs

Chapter III, Section 7 of the WMP Guidelines requires the electrical corporation to provide an overview narrative of planned initiative actions to reduce the impacts of Public Safety Power Shutoff (PSPS) events.[104] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

7.1 Discussion

This section discusses Energy Safety's evaluation of the PSPS section of the SCE 2026-2028 Base WMP.

SCE provided a satisfactory response in its 2026-2028 Base WMP to all the WMP Guidelines requirements for this section and thus demonstrated SCE's plan may reduce the duration, frequency, and scope for PSPS events. However, potential flaws in SCE's PSPS notifications system and SCE's lack of PSPS lessons learned during the January 2025 severe weather event and wildfires require more explanation.

SCE demonstrated progress on improving its PSPS strategy. SCE reported that it increased its wind speed and wind gust thresholds on covered conductor line segments to lessen the circuits and circuit segments impacted by PSPS events. Specifically, when the circuit is entirely insulated with covered conductor, the de-energization threshold increased from 31/46 mph (miles per hour) to 40/58 mph.[105] Increasing these de-energization thresholds means that, when circuits are insulated by covered conductor, the duration and frequency of PSPS events is reduced.

SCE also continues to deploy grid hardening strategies to reduce the risk of PSPS events. Prior to its 2026-2028 Base WMP, on its more frequently de-energized circuits, SCE already deployed 1,000 miles of covered conductor on 69 circuits, 30 automated switches on more than 20 circuits, and new weather stations on 13 circuits.[106] in its 2026-2028 Base WMP, SCE stated it plans to install 80 miles of insulated covered conductor on 12 circuits, and upgrade and install six automatic switches on five circuits.[107] These deployments will likely decrease the frequency of PSPS events because automated switches allow for quicker fault identification, covered conductor protects bare wire from elemental or collision damage, and increasing the number of weather stations allows for more targeted weather forecasting and data for predictive modeling. Additionally, SCE stated it plans to underground 260 miles of

[104] Pub. Util. Code, § 8386(c)(8).

[105] SCE 2026-2028 Base WMP, R2, page 212.

[106] SCE 2026-2028 Base WMP, R2, page 214.

[107] SCE 2026-2028 Base WMP, R2, page 214.

overhead lines in its service territory in 2026-2028.[108] Undergrounding greatly diminishes the risk of PSPS outages on fully undergrounded circuits and those without upstream overhead, which, coupled with covered conductor installation and increased wind thresholds, reduces SCE's overall risk of PSPS events.[109]

SCE discussed that it is continuing to evaluate circuits to reduce PSPS risk. Specifically, SCE is reviewing 22 circuits for additional grid hardening to reduce PSPS events.[110] While ten of these circuits were reviewed for similar measures in SCE's 2023-2025 Base WMP, 12 are newly-identified since and are the result of new analysis SCE conducted for its 2026-2028 Base WMP.[111] SCE's new analysis identified circuits that started experiencing three or more outages after 2023, and frequently de-energized circuits before 2023.[112] These additional circuits and new analysis demonstrate SCE's ongoing commitment to reducing PSPS events in its service territory.

SCE detailed lessons learned in its PSPS decision-making process since its 2023-2025 Base WMP submission.[113] For example, SCE raised an issue that it experienced "…a high volume of missed notifications" in its 2023 and 2024 PSPS seasons.[114] SCE explained it will expand its machine learning modeling capabilities to more accurately forecast areas likely to experience PSPS events "so that appropriate notifications can be sent to customers in the required timeframes."[115] Additionally, SCE identified plans to further expand its PSPS outreach by listing more PSPS-related information on social media platforms and exploring automation to improve notification performance.[116]

While SCE's responses addressed the WMP Guidelines requirements and demonstrated progress on improving its PSPS strategy, there are concerns, as noted by stakeholders, that SCE's PSPS notifications process contains observed errors. For example, Cal Advocates observed that in 2024 SCE did not provide "20,149 customer accounts the 24-48 hours advance notice prior to de-energization."[117] Cal Advocates additionally observed that SCE also did not notify 709 Critical Facilities and Infrastructure (CFI) and 49 Public Safety partners

[108] SCE 2026-2028 Base WMP, R2, page 227.

[109] SCE 2026-2028 Base WMP, R2, page 212.

[110] SCE 2026-2028 Base WMP, R2, page 214.

[111] Response to Data Request 17, Question 1.

[112] Response to Data Request 17, Question 1.

[113] SCE 2026-2028 Base WMP, R2, page 215.

[114] SCE 2026-2028 Base WMP, R2, page 215.

[115] SCE 2026-2028 Base WMP, R2, page 215.

[116] SCE 2026-2028 Base WMP, R2, page 215.

[117] Cal Advocates Comments in the R.18-12-005 proceeding, page 2.

within the 48-72 hour advance notice period.[118] SCE's notification failures counts were 64,435 in 2024, indeed higher than PG&E's 10,561 and SDG&E's 6,330 for the same year.[119] Cal Advocates recommended that the CPUC order SCE to file a Corrective Action Plan to address these concerns, which the Mussey Grade Road Alliance (MGRA) agreed with in its comments.[120] The Rural County Representatives of California (RCRC) additionally noticed these notifications concerns, recommending that SCE "publish average restoration times for Fast Curve outages, including a comparison of performance on circuits with covered conductor versus those with bare wire, as well as CAIDI-equivalent metrics."[121] These comments point to potential structural flaws in SCE's PSPS notifications systems that SCE alludes to in its 2026-2028 Base WMP but does not directly address, as discussed further in Section 7.1.1.

Additionally, SCE offered little insight into any PSPS lessons learned from SCE's experience during the January 2025 severe weather event and wildfires. During the January 2025 severe wind event and wildfires, SCE experienced PSPS-related challenges, with thousands of customers out of power for days.[122] Yet, SCE provided no lessons learned from January 2025. This lack of detail is concerning given the scope, scale, and the hundreds of thousands of customers impacted by the severe weather event, including the wildfires that occurred in SCE's service territory.[123, 124] Given the PSPS-related challenges SCE faced during that event as noted here and further detailed in Section 7.1.1., SCE must demonstrate further improvements to ensure its PSPS process and capabilities are sufficient to handle similar events in the future.[125]

7.1.1 January 2025 Severe Weather and Wildfires

The absence of any lessons learned or a plan for incorporating lessons learned regarding the January 2025 severe weather and wildfires is concerning.

The Santa Ana winds that fueled the severe weather event unleashed hurricane-force winds of at least 50 to 70 miles per hour (greater at higher elevations), which is so rare that only one

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[118] Cal Advocates Comments in the R.18-12-005 proceeding, page 2.

[119] Cal Advocates Comments in the R.18-12-005 proceeding, page 3.

[120] MGRA comments, page 38.

[121] RCRC Comments, page 2.

[122] Letter from President Reynolds to SCE, page 2.

[123] https://www.reuters.com/business/energy/californian-utility-socal-edison-shuts-power-over-114000-customers-due-wildfire-2025-01-08/.

[124] https://www.utilitydive.com/news/southern-california-edison-eix-wildfire-eaton-hurst/739622/.

[125] https://www.reuters.com/business/energy/californian-utility-socal-edison-shuts-power-over-114000-customers-due-wildfire-2025-01-08/ ; https://www.nbcnews.com/news/us-news/live-blog/california-wildfires-live-updates-rcna187240.

recorded instance in 2011 even approached the force of these winds.[126, 127] Facing these conditions, SCE initiated the largest PSPS event in its history for large swaths of its service territory.[128] Two of the PSPS events SCE declared in January 2025 affected a total of 515,589 customers, with some customers going without power for up to 15 days.[129, 130] In the first event from January 2 through January 17, SCE de-energized 363,196 customers.[131] In the second PSPS event from January 17 through January 27, SCE de-energized 152,393 customers.[132] The length of time customers had to go without power demonstrates that SCE experienced challenges with quickly restoring power in the wake of the severe weather event and wildfires. Furthermore, by January 12, 2025, the wildfires, whose causes have yet to be determined, collectively consumed around 60 square miles (or a little over 38,000 acres), with the Eaton and Hurst fires largely within SCE's service territory, affecting and displacing many SCE customers.[133, 134]

Despite the scope and scale of these wildfires, SCE did not identify PSPS lessons learned from SCE's experiences during the January 2025 severe weather and wildfires, but stated that it "is re-evaluating its customer support programs to enhance and better support customers during extreme events and will report relevant findings and lessons learned in future WMP Updates."[135] While this statement alludes to challenges SCE experienced during the severe weather event and wildfires, it does not detail any specific notification failures and plans to remediate those failures. This is problematic because, as Cal Advocates noted, in the month of January 2025 alone, SCE tallied 385,588 PSPS notification failures, relative to 640 for PG&E and 12,266 for SDG&E.[136] These notification failures indicate that there may be flaws in SCE's PSPS notification processes.

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[126] SCE January 2-17, 2025 PSPS Report, page 1.

[127] https://www.cnn.com/2011/12/03/us/california-wind-recovery/index.html.

[128] SCE January 2-17, 2025 PSPS Report, page 1.

[129] 363,196 + 152,393 = 515,589.

[130] Letter from President Reynolds to SCE, page 2.

[131] SCE January 2-17, 2025 PSPS Report, page 1.

[132] SCE January 17-27, 2025 PSPS Report, page 1.

[133] https://www.utilitydive.com/news/southern-california-edison-eix-wildfire-eaton-hurst/739622/.

[134] https://www.cnn.com/weather/live-news/los-angeles-wildfires-palisades-eaton-california-01-12-25/index.html.

[135] SCE 2026-2028 Base WMP, R2, page 215.

[136] Cal Advocates Comments in the R.18-12-005 proceeding, page 3.

A similar concern was also previously raised in an October 3, 2025, CPUC letter to SCE, which noted that there are serious issues related to SCE's PSPS performance over the last 18 months.[137]

Given these concerns, Energy Safety will require more reporting on both lessons learned and a plan for incorporating lessons learned from the January 2025 severe weather event and wildfires through area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned.

7.2 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to PSPS where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

7.2.1 SCE-23B-22. Consideration of PSPS Damage in Consequence Modeling

For this area for continued improvement, Energy Safety required SCE to report on the progress it made incorporating observed PSPS event damage information into its PSPS consequence modeling in its 2026-2028 Base WMP, including any conclusions SCE drew from its PSPS event damage and decision-making.[138]

7.2.1.1 SCE-23B-22: SCE Response Summary

In its 2026-2028 Base WMP, SCE reported that it is still exploring "…how PSPS event damages could play a role in operational PSPS decision-making."[139] SCE stated that it explored using PSPS event damage data to inform windspeed thresholds for de-energization events.[140] SCE also stated that it created a data-driven model using asset and damage data that considered a wide range of inputs.[141] SCE reviewed its data on conductor and pole damage to input into this data-driven model as a sample.[142] However, SCE determined the results were unsatisfactory due to machine learning model accuracy issues.[143] SCE stated that it has not yet finalized how its PSPS damage data will inform its PSPS decision-making process, and will

[137] Letter from President Reynolds to SCE, page 1.

[138] 2025 SCE WMP Update Decision, page 57.

[139] SCE 2026-2028 Base WMP, R2, page 606.

[140] SCE 2026-2028 Base WMP, R2, page 606.

[141] SCE 2026-2028 Base WMP, R2, page 606.

[142] SCE 2026-2028 Base WMP, R2, page 606.

[143] SCE 2026-2028 Base WMP, R2, page 606.

conduct an internal review of its PSPS threshold methodologies during the 2026-2028 Base WMP period.[144]

7.2.1.2 SCE-23B-22: Energy Safety Evaluation

As required in this area for continued improvement, SCE provided insight into its attempts to incorporate PSPS event damage data into its PSPS decision-making processes. SCE's detail on the types of data inputs it reviews, such as pole and conductor damage, points to a comprehensive analysis that considers the expansive impact of PSPS events on SCE's system. SCE's candid explanation of its ultimately unsuccessful attempt to create a predictive model for PSPS allows for transparency and insight into its decision-making process and willingness to address PSPS events in new ways. SCE's statement that it will internally review its PSPS threshold methodologies throughout 2026-2028 demonstrates a commitment to continuous improvement. As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. However, SCE must continue to improve its PSPS program according to the requirements in area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned, discussed in Section 7.3.1.

7.3 Areas for Continued Improvement for Future WMP Submissions

7.3.1 SCE-26B-10. January 2025 Severe Weather and Wildfires PSPS Lessons Learned

Summary: SCE did not address any PSPS lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires, nor did SCE include a plan to incorporate PSPS lessons learned from the severe weather event and wildfires.

Requirements: In its next WMP submission, SCE must:

- Include any PSPS lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires.
- Include a plan to incorporate any additional PSPS lessons learned from the severe weather event and wildfires.
- Update the associated WMP narrative to explain SCE's lessons learned during the January 2025 severe weather event and wildfires. PSPS lessons learned must address, at minimum:
    - How SCE plans to reduce the scope and duration of PSPS events,

[144] SCE 2026-2028 Base WMP, R2, page 606.

  - Any changes to SCE's PSPS initiation criteria, and any changes in its outreach, mitigation activities, and other associated sections in the WMP with the implementation of those criteria,
  - If SCE's continued installation of RAR or RCS sectionalizing devices, as described in Section 8.2.1.6., had any impact on the frequency and duration of PSPS events since SCE began installing these devices,
  - Any weather forecasting gaps SCE identified in its analysis,
  - Changes SCE plans to incorporate or is incorporating for its PSPS notification procedures,
  - The effectiveness of SCE's guidelines and procedures during the January 2025 severe weather event and wildfires as described in Section 11.1.1, and
  - Any additional PSPS lessons learned.
- Any lessons learned from additional PSPS events in 2025.
- Any lessons learned from changes to its PSPS system that SCE made in 2025.

Discussed in: Section 7.1.1 January 2025 Severe Weather and Wildfires

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8. Grid Design, Operations, and Maintenance

Chapter III, Section 8 of the WMP Guidelines requires the electrical corporation to include plans for grid design, operations, and maintenance programmatic areas in its WMP.[145] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

8.1 Summary of Anticipated Risk Reduction

Overall, SCE's wildfire mitigation strategy in this WMP cycle is expected to produce quantifiable risk reductions through a combination of covered conductor installations, targeted undergrounding (particularly in the SRAs identified as High Wind areas), REFCL technology deployment, and continued traditional overhead system hardening. This multifaceted approach supports SCE's goal of reducing utility-related wildfire risk in its service territory.

SCE reported in its 2026-2028 Base WMP that it plans to deploy REFCL technology—including five REFCL Ground Fault Neutralizers (GFN) and eight Grounding Conversions (GC)—which is likely to achieve significant risk reduction. Specifically, REFCL GFN is expected to achieve 1.44 percent overall risk reduction, while REFCL GC is expected to achieve 1.57 percent overall risk reduction.[146] This demonstrates that SCE is making investments to reduce risk in its service territory.

Additionally, SCE's undergrounding program (SH-2) is expected to contribute more significantly to risk reduction than in previous WMP cycles. SCE's previous 2023-2025 Base WMP had an undergrounding three-year target of 57 circuit-miles.[147] In comparison, according to *Table 8-1: Equipment Maintenance and Repair Strategy* in SCE's 2026-2028 Base WMP, SCE plans to underground 75 circuit miles in 2026, 100 circuit miles in 2027, and 85 circuit miles in 2028 for an anticipated 0.61 percent risk reduction for all of SCE's service territory in 2026, 0.92 percent in 2027, and 0.40 percent in 2028.[148] The majority of these miles are targeted within SCE's SRAs.[149]

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[145] Pub. Util. Code §§ 8386(c)(3), (6), (10), (14)-(15).

[146] SCE 2026-2028 Base WMP, R2, page 219.

[147] SCE 2023-2025 Base WMP R3.1., page 238.

[148] SCE 2026-2028 Base WMP, R2, page 219.

[149] Response to Data Request 1.

SCE updated and improved its transmission splice shunting activity by replacing its transmission splice inspections with x-ray (IN-9.b) with proactive splice shunting (SH-20).[150] SCE moved forward with transmission splice shunting on a proactive basis by setting targets instead of relying on inspections follow by remediation.[151] SCE's proactive stance will allow SCE to accelerate risk reduction in its service territory.

As noted in the discussion below, SCE should continue to improve its grid hardening risk reduction through more targeted efforts, such as coordinating with Bear Valley Electric Service (BVES) on its Zanja supply line, and focusing SCE's undergrounding efforts in SRA-identified High Wind areas.

8.2 Discussion

This section discusses Energy Safety's evaluation of the grid design, operations, and maintenance section of the SCE 2026-2028 Base WMP.

8.2.1 Grid Design and System Hardening

8.2.1.1 Covered Conductor Installation

SCE provides power to BVES's Radford Circuit from its Zanja Substation in Riverside, via the Zanja supply line, but due to limitations in SCE's protection settings, SCE could not achieve recloser coordination with BVES's Radford Circuit.[152, 153] SCE states that it plans to replace 11 miles of existing overhead lines with covered conductor along the Zanja supply line, with an anticipated work start date of August 31, 2025, and a targeted completion by November 20, 2025.[154] The scope of work does not include upgrading existing reclosers or installing new reclosers.[155] BVES states that it has not achieved coordination of protective device settings with SCE's supply line, and if protective device settings are not coordinated it could lead to localized faults and loss of power supply in its service territory. [156, 157]

While SCE's plan to harden the 11 miles of overhead lines will reduce risk, to improve reliability, SCE's must also work with BVES to achieve coordination of its Zanja supply line device settings with BVES's protective devices. This will be monitored through a new area for

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[150] SCE 2026-2028 WMP R2, page 503.

[151] SCE 2026-2028 WMP R2, page 260.

[152] Response to Data Request 4.

[153] BVES, Response to Data Request 4.

[154] Response to Data Request 4.

[155] Response to Data Request 4.

[156] BVES, Response to Data Request 4.

[157] BVES 2026-2028 Base WMP, R1, page 164.

continued improvement: SCE-26B-17: Coordination of Protective Device Settings on the Zanja Supply Line.

8.2.1.2 Undergrounding of Electric Lines and/or Equipment

SCE should focus its undergrounding efforts in High Wind locations to better reduce wildfire risk. In its 2026-2028 Base WMP, SCE shifted its wildfire mitigation strategy from covered conductor installation to prioritize undergrounding as compared to its 2023-2025 Base WMP.[158] SCE's undergrounding 3-year target is 260 circuit miles,[159] which is an approximate increase of 350 percent than its previous Base WMP target.[160]

SCE's undergrounding 3-year target of 260 circuit miles encompasses SRAs, areas within SCE's HFRA that SCE defined as the highest risk category. Specifically, in its response to Data Request 1 Question 1, SCE stated that 250 miles of SCE's 260 mile undergrounding target for the 2026-2028 cycle are within SCE's SRAs.[161] This shift in focus to undergrounding and the increase in target miles will reduce overall utility risk given that SCE is targeting undergrounding in areas in its service territory that face the highest risks.

In addition to SCE's focus on undergrounding in SRAs, Energy Safety recommends that SCE target undergrounding in high wind areas within SRAs. SCE's IWMS framework uses four criteria to categorize areas within HFRA in the SRA category: fire risk egress constrained areas, significant fire consequence, high winds, and communities of elevated fire concern.[162] Of those four criteria, Energy Safety recommends that SCE should focus its undergrounding efforts on areas that meet its High Winds SRA criteria for two main reasons.[163, 164] First, High Wind locations will still be subject to higher PSPS likelihood even if fully covered with covered conductor given SCE's existing PSPS thresholds.[165] Second, at the start of 2026, there will be roughly 113 unhardened miles within SCE's High Wind locations.[166] Leaving the infrastructure unhardened in these locations may expose it to wildfire and outage risk during high wind events. SCE's increased focus on undergrounding in SRAs demonstrates progress, and it should continue to develop its undergrounding strategy by focusing its undergrounding efforts in High Wind locations to further reduce wildfire risk.

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[158] Table 8-3, SCE 2023-2025 Base WMP R3.1., pages 238-245

[159] Table 8-1, SCE 2026-2028 Base WMP, R2, page 219.

[160] (260 miles – 57 miles)/ 57 miles x 100 = 356%

[161] Response to Data Request 1.

[162] SCE 2026-2028 Base WMP, R2, page 50.

[163] Table SCE 5-02, SCE 2026-2028 Base WMP, R2, page 59.

[164] Table SCE 5-02a, SCE 2026-2028 Base WMP, R2, page 61.

[165] Table SCE 5-02, SCE 2026-2028 Base WMP, R2, page 59.

[166] Response to Data Request 6, Question 1.

8.2.1.3 Transmission and Distribution Pole Replacements and Reinforcements

SCE does not have a forward-looking strategy for its transmission and distribution pole replacements and reinforcements. SCE should be aiming towards asset lifecycle maintenance for its poles. SCE currently only has programs to replace or reinforce poles after it finds degraded conditions.[167] Under SCE's current process, there is a backlog of transmission and distribution pole-related work orders.[168] For example, in *Table SCE 8-05: Types of findings within the backlog – distribution*, SCE reported a 25 percent backlog to repair or replace distribution poles.[169] For transmission, in *Table SCE 8-06: Types of findings within the backlog – transmission*, SCE reported a 57 percent backlog to repair or replace transmission poles.[170]

It is difficult to assess SCE's progress addressing this backlog because SCE does not consider pole replacement as a stand-alone WMP initiative. Instead, pole replacements are tracked as a part of SCE's asset management.[171] SCE has inspection programs and pole loading programs that will identify and schedule poles for replacement if they are deteriorated.[172] Both inspection and loading programs prescribe work only after SCE finds degraded conditions on a pole during an inspection, resulting in the work order backlog described in Tables 8-05 and 8-06. Moreover, the backlog described in Tables 8-05 and 8-06 includes many work orders in SCE's riskiest circuits. Specifically, there are 729 open transmission work orders in the HFTD with elevated and extreme ignition risk, and 2,238 distribution work orders in the HFTD with elevated and extreme ignition risk.[173]

Given the volume of SCE's work orders, SCE must develop and implement a forward-looking strategy for transmission and distribution pole replacements and reinforcements. This forward-looking strategy must set Tracking IDs and targets for pole replacement and reinforcement work, with separate tracking IDs and targets for transmission and distribution equipment. Energy Safety will track this activity through area for continued improvement SCE-26B-13: Forward-looking Pole Replacement Strategy.

[167] SCE 2026-2028 Base WMP, R2, page 241.

[168] SCE 2026-2028 Base WMP, R2, page 314.

[169] SCE 2026-2028 Base WMP, R2, page 313.

[170] SCE 2026-2028 Base WMP, R2, page 313.

[171] SCE 2026-2028 Base WMP, R2, pages 241-244.

[172] SCE 2026-2028 Base WMP, R2, pages 244.

[173] Table 13, SCE Quarterly Data Report Quarter 4, 2024.

8.2.1.4 Traditional Overhead Hardening

Vibration Dampers

SCE demonstrates forward-looking growth in its traditional overhead hardening activities; since its 2023-2025 Base WMP, SCE revised its construction standards to now require installation of vibration dampers for all new covered conductor installations.[174] SCE's evaluation of the vibration dampers retrofit program started with area for continued improvement ACI-22-14, where its retrofit program focused on conductor installed prior to 2020.[175, 176] While this targeted program is ending in 2025, SCE stated that it now requires vibration dampers for all new covered conductor installation.[177] This demonstrates forward-looking growth in its traditional overhead hardening because SCE created a more comprehensive standard by requiring vibration dampers for all new covered conductor installations going forward, thereby building a more comprehensive longer-term wildfire mitigation strategy.

Long Span Initiative

In its 2026-2028 Base WMP, SCE reported three types of remediations to reduce wire-to-wire contact from long spans: Lines Spacers; Alternate Construction (i.e., ridge pin, box construction, wider crossarms, and inter-set poles); or covered conductor installation.[178] This demonstrates that SCE is taking steps to reduce wildfire risk from conductor clashing in high wind conditions.

8.2.1.5 Emerging Grid Hardening Technology Installations and Pilots

Transmission Hardening Pilots

SCE provided plans for two new pilot programs: Transmission High Risk Transition Spans[179] and Transmission Proactive Splice Shunting.[180] These pilots are forward-looking and identify spans and splices that are reaching the end of their service life, and proactively mitigates that risk before the aging assets can lead to wire down events and cause an outage event. Additionally, based on lessons learned from 2025 and 2026, SCE noted it will establish a Transmission High Risk Transition Spans program and SCE will set Transmission Proactive

[174] SCE 2026-2028 Base WMP, R2, page 229.

[175] SCE 2023-2025 Base WMP R3.1, page 754.

[176] SCE 2026-2028 Base WMP, R2, page 229.

[177] SCE 2026-2028 Base WMP, R2, page 229.

[178] SCE 2026-2028 Base WMP, R2, page 245.

[179] SCE 2026-2028 Base WMP, R2, page 256.

[180] SCE 2026-2028 Base WMP, R2, page 258.

Splice Shunting targets for 2027 and 2028.[181, 182] Energy Safety expects that SCE will provide updates to these two programs in its next WMP Update, when SCE will explain more about its established Transmission High Risk Transition Spans program and adjusted splice shunting targets.

Rapid Earth Fault Current Limiters (REFCL)

SCE is currently the only large electrical corporation that has moved from a pilot phase and into in-service implementation of REFCL technology. SCE reported no ignitions in areas where it implemented REFCL GFN and GC projects.[183, 184] SCE is also the only large electrical corporation with any reported REFCL targets, including five REFCL GFN and eight REFCL GC targets.[185] Including both GFN and GC targets demonstrates that SCE is comprehensively deploying REFCL and not relying only on one type of REFCL to meet its target.

Given that SCE is leading in REFCL deployment, SCE should share its lessons learned with other electrical corporations. Specifically, SCE should share how its findings are influencing its future REFCL site selection and implementation planning. Collaborating with other electrical corporations and sharing its findings would also give SCE the opportunity to learn about other challenges to REFCL deployment the other electrical corporations experience, such as deployment difficulties in different substation configurations or terrain, or overcoming location access issues. Details for SCE's REFCL collaboration reporting can be found in Energy Safety area for continued improvement SCE-26B-11. Continuation of Grid Hardening Joint Studies.

8.2.1.6 Installation of System Automation Equipment

SCE will continue to install Remote Control Switches (RCS) and Remote Automatic Recloser (RAR) devices. RCS allows SCE to reduce the scope of PSPS events through limiting de-energization to fewer and smaller circuit segments.[186] RARs work to shut off electric power when a fault is detected in order to reduce ignition risk.[187] Similar to its previous Base WMP, SCE is targeting an installation of 5 RAR or RCS sectionalizing devices per year from 2026 to 2028.[188] SCE's continued system automation equipment installations demonstrates progress towards reducing ignition and outage risk. However, given that RCS allows limiting de-

[181] SCE 2026-2028 Base WMP, R2, page 256.

[182] SCE 2026-2028 Base WMP, R2, page 258.

[183] SCE 2026-2028 Base WMP, R2, page 250.

[184] SCE 2026-2028 Base WMP, R2, page 255.

[185] Table 8-1, SCE 2026-2028 Base WMP, R2, page 221.

[186] SCE 2026-2028 Base WMP, R2, page 263.

[187] SCE 2026-2028 Base WMP, R2, page 263.

[188] Table 8-1, SCE 2026-2028 Base WMP, R2, page 221.

energization to fewer and smaller circuit segments, and to better understand how these installations reduce SCE's PSPS event frequency especially in light of the January 2025 severe weather and wildfires, SCE must provide more reporting on whether these continued installations had any impact on the frequency and duration of SCE's PSPS events since SCE began installing these devices, as detailed in area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned.

8.2.1.7 Line Removal in the HFTD

In its response to Data Request 4 Question 11, SCE stated that its service territory contains 305 miles of de-energized transmission lines that are parallel to and within 1,000 feet of energized transmission lines 55 kV or greater.[189] However, SCE does not currently have a line-by-line analysis of risk posed by de-energized transmission lines.[190] Furthermore, SCE stated in its 2026-2028 Base WMP that it is currently assessing de-energized distribution lines and its assessment may or may not include transmission lines, which is why its 2026-2028 Base WMP did not report targets for its line removal activity.[191]

Given SCE's lack of reported de-energized line assessment, and that the other electrical corporations define, assess, and mitigate risk associated with these de-energized lines differently,[192, 193] Energy Safety outlined new reporting requirements for electrical corporations in area for continued improvement SCE-26B-12: De-energized Transmission Line Assessment and Removal.

8.2.2 Asset Inspections

8.2.2.1 Distribution High Fire Risk-Informed Inspections

Based on the information in its 2026-2028 Base WMP, SCE's distribution high fire risk informed inspection program, consisting of various inspections and incorporation of new technology as described below, is robust and mitigates wildfire risk. However, SCE must coordinate with other large electrical corporations to ensure that its inspection program continues to be effective, specifically that SCE's findings are effectively communicated to its investigators as it explores the usage of artificial intelligence (AI).

Relative to the other large electrical corporations, SCE's detailed distribution inspection program is the most comprehensive. For example, PG&E conducts either a detailed ground or detailed aerial inspection of approximately 42 percent of its distribution HFTD and HFRA

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[189] Response to Data Request 4.

[190] Response to Data Request 4.

[191] SCE 2026-2028 Base WMP, R2, page 266.

[192] PG&E Response to Energy Safety Data Request 18.

[193] SDG&E Response to Energy Safety Data Request 14.

assets annually, while SD&E conducts detailed ground inspections of approximately 20 percent of its HFTD and HFRA distribution assets annually.[194, 195] In contrast, SCE conducts both detailed ground and detailed aerial inspections of approximately 72 percent of its distribution HFTD and HFRA assets annually.[196]

SCE stated that it performs single-visit 360 inspections, which include both aerial and ground checks.[197] Performing both types of inspections increases the likelihood of inspections identifying conditions that are difficult to identify from an exclusively aerial or ground perspective.

In its 2026-2028 Base WMP, SCE stated that it performs High Fire Risk Informed (HFRI) inspections on around 72 percent of its distribution HFTD assets annually, and the frequency is adjusted based on asset risk.[198, 199] This inspection program exceeds the GO 165 requirement of inspecting distribution assets once every 5 years and comprehensively includes the following areas and frequency:

- Severe Risk Areas are inspected annually.[200]
- Some of SCE's identified highest risk structures within Severe Areas may be inspected twice per year.[201]
- High Consequence Areas are inspected every 1-3 years, depending on the risk profile.[202]
- All assets in the HFTD/HFRA are inspected at least once every three years.[203]

SCE stated that it plans to incorporate more technology to refine its distribution inspections process. For example, SCE is piloting the use of AI for condition detection.[204] SCE stated that it is currently using nine models for condition detection, and these models currently serve as a quality control measure.[205] The models analyze images and identify potential findings, which

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[194] PG&E 2026-2028 Base WMP, R2, page 230.

[195] SDG&E 2026-2028 Base WMP, R2, page 180.

[196] SCE 2026-2028 Base WMP, R2, page 274.

[197] SCE 2026-2028 Base WMP, R2, page 275.

[198] SCE 2026-2028 Base WMP, R2, page 274.

[199] SCE 2026-2028 Base WMP, R2, page 277.

[200] SCE 2026-2028 Base WMP, R2, page 276.

[201] SCE 2026-2028 Base WMP, R2, page 276.

[202] SCE 2026-2028 Base WMP, R2, page 276.

[203] SCE 2026-2028 Base WMP, R2, page 276.

[204] SCE 2026-2028 Base WMP, R2, page 280.

[205] SCE 2026-2028 Base WMP, R2, page 280.

are then reviewed by human experts.[206] Identified issues are used to provide feedback to inspectors, and SCE plans to create more use cases for transmission and distribution condition detection in 2025.[207] In its 2026-2028 Base WMP, SCE stated that it plans to evaluate the feasibility of automating the notification process of issues detected by AI.[208]

In its 2026-2028 Base WMP, SCE stated that it is also exploring the use of LiDAR in its HFRI inspections.[209] LiDAR will be used to validate asset location and assess equipment.[210] This could help SCE identify issues through comparison to past records and assess asset clearance more accurately than visual inspections alone.[211]

As the large electrical corporations have matured, their detailed distribution inspection programs have diverged. For example, PG&E performs predominantly aerial inspections, while SCE performs combined aerial and ground inspections.[212, 213] Given that most electric corporation assets are monitored through visual inspection[214, 215, 216] and only repaired or replaced when a condition is identified during an inspection,[217, 218, 219] it is critical that detailed distribution inspections effectively identify Level 1 and 2 conditions for remediation to minimize wildfire risk.

As SCE explores the use of AI to identify potential conditions through image analysis, it must ensure that the findings are effectively communicated to inspectors through well-defined feedforward and feedback processes. A cross-utility benchmarking study comparing SDG&E, SCE, and PG&E detailed inspection programs is required in SCE-26B-11: Continuation of Grid Hardening Joint Studies.

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[206] SCE 2026-2028 Base WMP, R2, page 280.

[207] SCE 2026-2028 Base WMP, R2, page 280.

[208] SCE 2026-2028 Base WMP, R2, page 280.

[209] SCE 2026-2028 Base WMP, R2, page 280.

[210] SCE 2026-2028 Base WMP, R2, page 280.

[211] SCE 2026-2028 Base WMP, R2, page 280.

[212] PG&E response to Energy Safety Data Request 05, Question 1 and PG&E response to Energy Safety Data Request 19, Question 2.

[213] SCE 2026-2028 Base WMP, R2, page 275.

[214] PG&E 2026-2028 Base WMP, R2, pages 264-304.

[215] SCE 2026-2028 Base WMP, R2, pages 293-298.

[216] SDG&E 2026-2028 Base WMP, R2, pages 206-207.

[217] PG&E 2026-2028 Base WMP, R2, pages 264-304.

[218] SCE 2026-2028 Base WMP, R2, pages 293-298.

[219] SDG&E 2026-2028 Base WMP, R2, pages 206-207.

8.2.2.2 Transmission High Fire Risk-Informed Inspections

SCE's transmission HFRI program mitigates wildfire risk. For example, similar to its distribution high fire risk-informed inspections, in its 2026-2028 Base WMP, SCE stated that it performs single-visit 360 inspections, which include both aerial and ground checks.[220] Implementing both types of inspections increases the likelihood of inspections identifying conditions which are difficult to identify from an exclusive aerial or ground perspective.

Relative to the other large electrical corporations, SCE's detailed transmission inspection program is the most comprehensive. For example, PG&E conducts either a detailed ground, aerial, or aerial lift assisted inspection of approximately 40 percent of its transmission HFTD and HFRA assets annually, while SDG&E conducts detailed ground inspections of approximately 33 percent of its HFTD and HFRA transmission assets annually. [221, 222] In contrast, SCE conducts both detailed ground and detailed aerial inspections of approximately 77 percent of its transmission HFTD and HFRA assets annually and the frequency is adjusted based on asset risk.[223, 224] Similar to SCE's distribution high fire risk-informed inspections, this inspection includes the following areas and frequency:

- Severe Risk Areas are inspected annually.[225]
- Some of the highest risk structures in Severe Areas may be inspected twice per year.[226]
- High Consequence Areas are inspected every 1-3 years, depending on the risk profile.[227]
- All assets in the HFTD/HFRA are inspected at least once every three years.[228]

8.2.2.3 Distribution Infrared (IR) Scanning

SCE's distribution IR inspections identify conditions that are not easily detectable through other inspection methods.[229] For instance, thermal anomalies are often not detectable by visual inspections. IR, on the other hand, is able to identify hot spots that otherwise often

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[220] SCE 2026-2028 Base WMP, R2, page 281.

[221] PG&E 2026-2028 Base WMP, R2, page 230.

[222] SDG&E 2026-2028 Base WMP, R2, page 180.

[223] SCE 2026-2028 Base WMP, R2, page 274.

[224] SCE 2026-2028 Base WMP, R2, page 282.

[225] SCE 2026-2028 Base WMP, R2, page 282.

[226] SCE 2026-2028 Base WMP, R2, page 282.

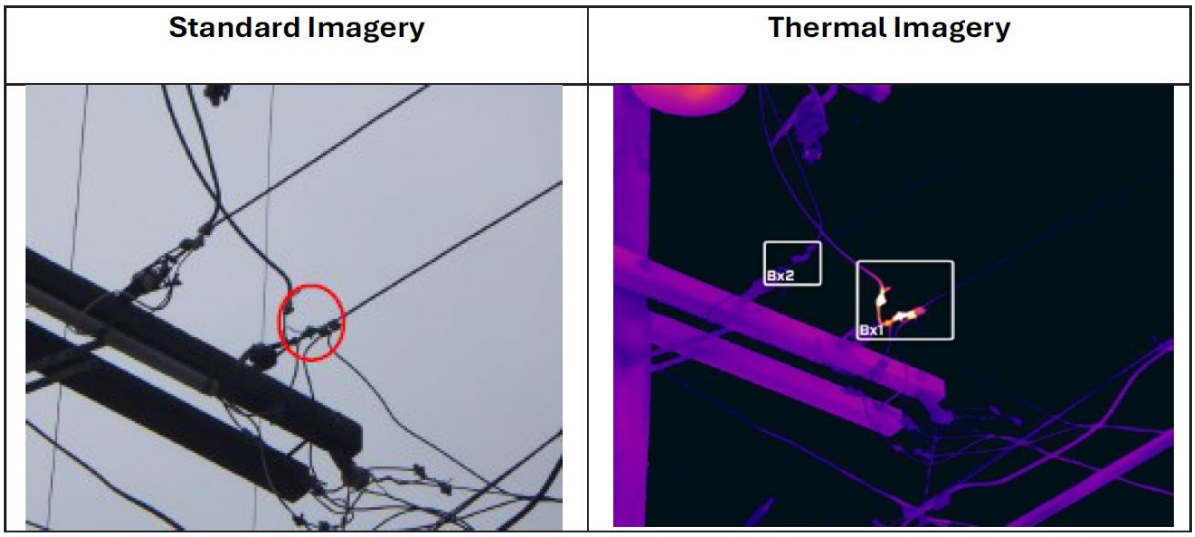
[227] SCE 2026-2028 Base WMP, R2, page 282.

[228] SCE 2026-2028 Base WMP, R2, page 282.

[229] SCE 2026-2028 Base WMP, R2, pages 283-284.

appear normal from a visual inspection. These hot spots help predict early failures where equipment faces fatigue, or helps detect areas that may be overloaded and need additional configuration to alleviate excess heat. The figure below, provided by SCE, demonstrates such a condition on a distribution asset.[230]

Figure SCE 8-17: Distribution Infrared (IR) Inspection of a 12kV Circuit



While there are currently no CPUC GO requirements for IR inspections specifically, SCE performs IR inspections on 58 percent of its distribution assets in HFRA/HFTD annually, which exceeds GO 165 general inspection requirements. SCE inspects its highest risk districts annually and the remaining districts every two years.[231] SCE also stated that it schedules inspections during summer months and peak loading when possible.[232] This demonstrates that SCE prioritizes inspections during times when thermal conditions identifiable by IR inspections are more likely to be present, which is likely to decrease wildfire risk.

8.2.2.4 Transmission Infrared (IR) and Corona Scanning

SCE's transmission IR and corona inspections identify conditions that are not detectable through other inspection methods. Corona discharge and thermal anomalies identified by these inspections are often otherwise not easily detectable by visual inspection. The figure below, provided by SCE, demonstrates a thermal condition on a transmission asset.[233]

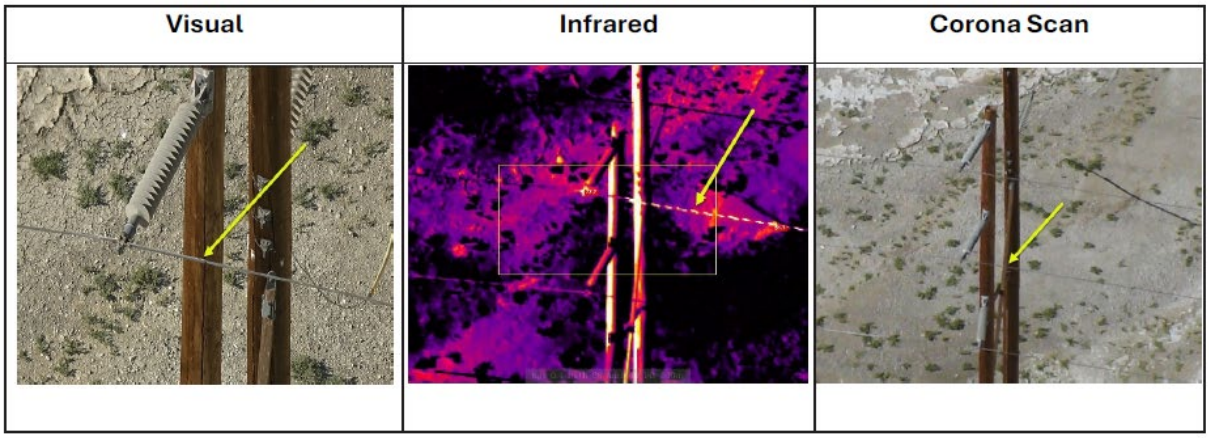
[230] SCE 2026-2028 Base WMP, R2, page 284.

[231] SCE 2026-2028 Base WMP, R2, page 282.

[232] SCE 2026-2028 Base WMP, R2, page 282.

[233] SCE 2026-2028 Base WMP, R2, page 286.

Figure SCE 8-18: Control-Haiwee-Inyokern 115kV line



In its 2026-2028 Base WMP, SCE stated that it performs IR and corona inspections on 25 percent of its HFRA/HFTD transmission assets annually.[234] SCE also stated that it performs IR and corona inspections on its highest risk circuits annually and the rest on a 5-year cadence.[235] This demonstrates that SCE is scheduling inspections on circuits using a risk informed approach that targets circuits identified by SCE as the most at risk for wildfires, and is taking proactive steps to identify and mitigate that risk.

8.2.2.5 Generation High Fire Risk Informed (GHFRI) Inspections

SCE stated that it plans to reduce the wildfire risk associated with powerhouses, substations and ancillary assets by performing GHFRI inspections, which incorporate ignition focused checks.[236] SCE stated that it will perform annual GHFRI inspections on assets presenting the highest 75 percent of risk, and biennial inspections on assets posing the remaining 25 percent of risk.[237] SCE is likely reducing wildfire risk by performing these annual ignition focused checks on its highest risk generation facilities.

8.2.2.6 Discontinued Transmission Conductor and Splice Assessment

In its 2026-2028 Base WMP, SCE stated that it decided to discontinue its Transmission Conductor and Splice Assessment program and forgo inspections to proceed straight to proactive remediation.[238]

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[234] SCE 2026-2028 Base WMP, R2, page 274.

[235] SCE 2026-2028 Base WMP, R2, page 288.

[236] SCE 2026-2028 Base WMP, R2, page 289.

[237] SCE 2026-2028 Base WMP, R2, page 289.

[238] SCE 2026-2028 Base WMP, R2, page 290.

In its 2025 WMP Update, SCE stated that its splice assessment, which consisted of splice x-ray review, demonstrated a high find rate of 55 percent.[239] However, in its 2026-2028 Base WMP, SCE stated that it will no longer perform splice assessments, and instead it will begin proactively shunting transmission splices in its entire service territory. SCE will likely mitigate significantly more wildfire risk by implementing a proactive remediation approach because it can perform more remediations than inspections per year, as evidenced by its target of 500 shunt installations in 2026[240] and completion of approximately 62 inspections per year in 2023 and 2024.[241] Proactively shunting 500 splices in one year will remove more risk than performing 62 inspections in a year because the x-ray inspections alone do not remove risk. Rather, the x-ray inspections potentially identify risk to be reduced in the future when a shunt splice is installed, whereas installing a shunt immediately reduces the risk. This topic is discussed in more detail in Section 8.3.3 of this Decision. Energy Safety will monitor SCE's proactive shunting in area for continued improvement SCE-26B-16: Transmission Proactive Splice Shunting Update.

8.2.3 Equipment Maintenance and Repair

The WMP Guidelines require electric corporations to report on its maintenance practices in place for various equipment types.[242] Electric corporations are also required to report equipment failure and ignition rates, which may be used to gauge maintenance program effectiveness.[243]

8.2.3.1 Condition Monitoring

The WMP Guidelines require an electrical corporation to describe how it monitors the condition of its equipment as part of its equipment maintenance and repair strategy. In its 2026-2028 Base WMP, SCE reported that the majority of its distribution assets are monitored through visual inspection and IR inspections.[244] Specific distribution assets are monitored through different means. For example, capacitors are monitored by functional tests and automated sensor readings.[245] Conductors are monitored through LiDAR measurements and

[239] SCE 2026-2028 Base WMP, R2, page 589.

[240] SCE 2026-2028 Base WMP, R2, page 219.

[241] SCE 2026-2028 Base WMP, R1, Tables – Appendices, Table SCE-25U-05: SCE-25U-05 Transmission Conductor Splice Assessment 2023-2024 Findings. URL: (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=59387&shareable=true).

[242] WMP Guidelines, pages 90-93.

[243] WMP Guidelines, pages 90-93.

[244] SCE 2026-2028 Base WMP, R2, pages 293-298.

[245] SCE 2026-2028 Base WMP, R2, page 293.

automated sensor readings.[246] Transformers are monitored through operating algorithms.[247] Similar to its distribution assets, most of SCE's transmission assets are monitored through human visual, corona and IR inspections, as well as automated sensor readings such as early fault detection (EFD).[248] SCE's condition monitoring methods are robust; however, given that the majority of assets are monitored through human visual inspection, it is important that the inspections are thorough and effective.

8.2.3.2 Equipment Failure Data Collection

Generally, to continually refine equipment maintenance and repair programs, electric corporations can collect and analyze granular failure data to identify and address emerging asset health concerns. SCE's distribution maintenance program does not track granular data; it, currently groups splice failures together with conductor failures. SCE's distribution maintenance program must track splice failures separately from conductor failures so that the data is more accurate and accessible.

SCE stated that splice failure notifications are often attributed to conductor or structure instead of splices,[249] which means that the data does not accurately track what is directly causing the failure. Specifically, SCE reported zero distribution splice failures from 2019 to 2024, but also reported 4,724 distribution conductor failures in the same period.[250, 251] As a condition of the settlements approved by CPUC Decision 14-08-009 in 2014, the CPUC Safety Enforcement Division required SCE to implement a program to identify splices on primary conductors, evaluate the effect of splices on conductor integrity, and determine the types of splices more likely to fail.[252] While this settlement did not specifically require SCE to track splice failures, without an accurate record of splice failures, it is impossible to determine if maintenance or inspection adjustments focused on preventing splice failures are warranted to improve SCE's distribution system health. Therefore, Energy Safety requires SCE to develop a way to consistently record and track splice failures through area for continued improvement SCE-26B-15: Distribution Splice Failure Tracking.

8.2.3.3 Equipment Failure and Ignition Trends

As part of its equipment maintenance and repair strategy, the WMP Guidelines require an electrical corporation to provide failure and ignition rates for a given equipment type in the

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[246] SCE 2026-2028 Base WMP, R2, page 295.

[247] SCE 2026-2028 Base WMP, R2, page 297.

[248] SCE 2026-2028 Base WMP, R2, pages 293-298.

[249] SCE 2026-2028 Base WMP, R2, page 301.

[250] SCE 2026-2028 Base WMP, R2, page 301.

[251] SCE 2026-2028 Base WMP, R2, page 301.

[252] CPUC Settlement Decision, Attachment 1, page 3.

HFTD and HFRA.[253] In its 2026-2028 Base WMP, SCE reported a downward trend in the number of distribution equipment failures from 2019 to 2024, while the number of ignitions from such equipment failures did not demonstrate such a trend.[254] These trends likely diverged due to the number of factors that contribute to a failure resulting in an ignition (such as the fuel conditions and aridity at time of failure). These factors can be difficult to normalize for, particularly given the small sample size of ignitions.[255]

SCE reported 105 ignitions from 2019 to 2024. This is an average of 17.5 ignitions per year, spread across 7 different equipment type categories. This number of events is too small to draw strong conclusions from. However, if SCE's equipment failures continue to decline, it is expected that equipment failure ignitions will as well. The downward trend in equipment failures suggests that SCE's inspection and maintenance practices have improved over time and more equipment is being repaired or replaced prior to failure. Figures 8-1 and 8-2, shownbelow illustrate SCE's distribution equipment failures and ignitions over time, showing an overall trend of decrease in equipment failures, but a sustained trend for ignitions.

[253] WMP Guidelines, page 92.

[254] SCE 2026-2028 Base WMP, R2, page 302.

[255] SCE 2026-2028 Base WMP, R2, page 301.

Figure 8-1. Distribution Equipment Failures

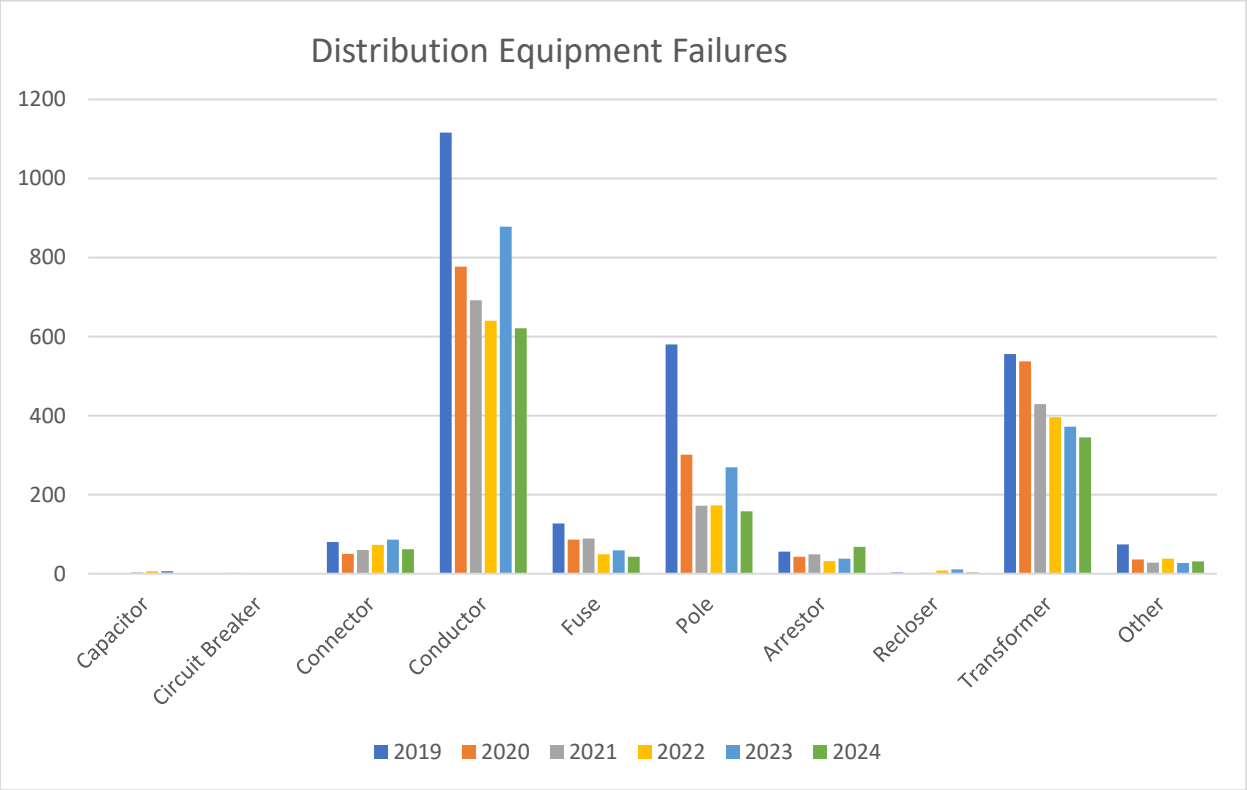
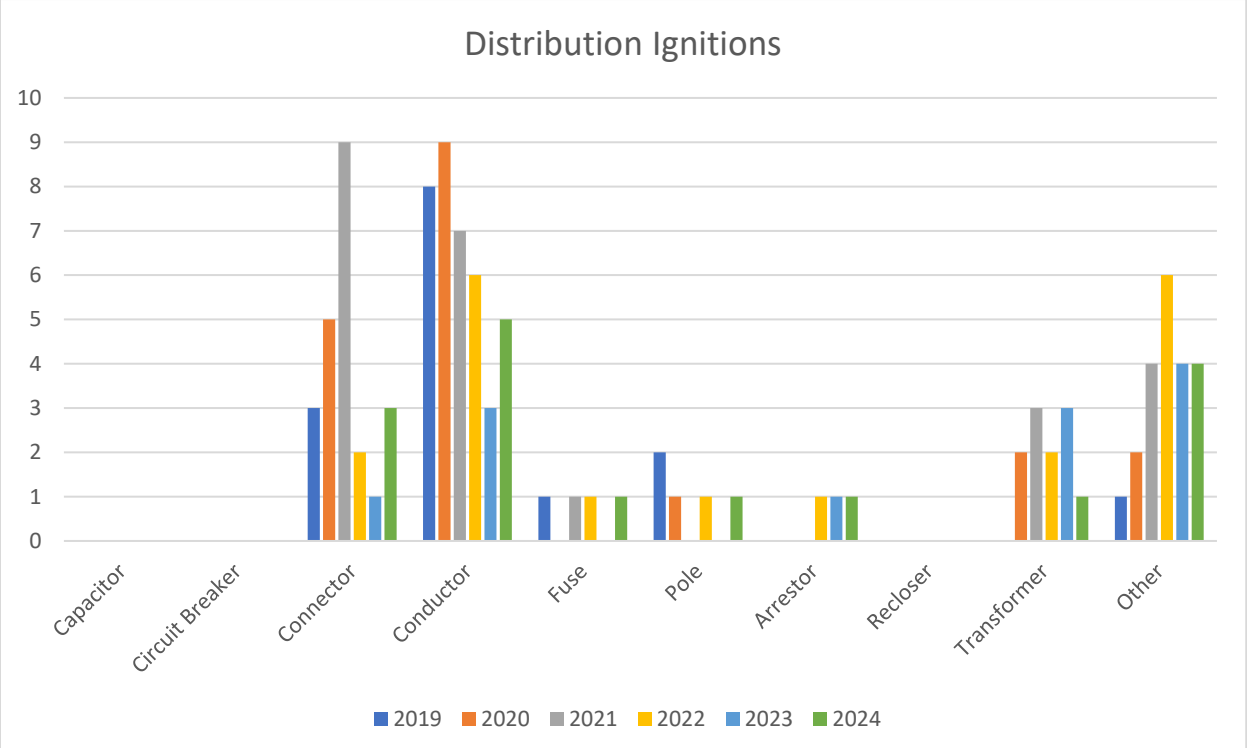


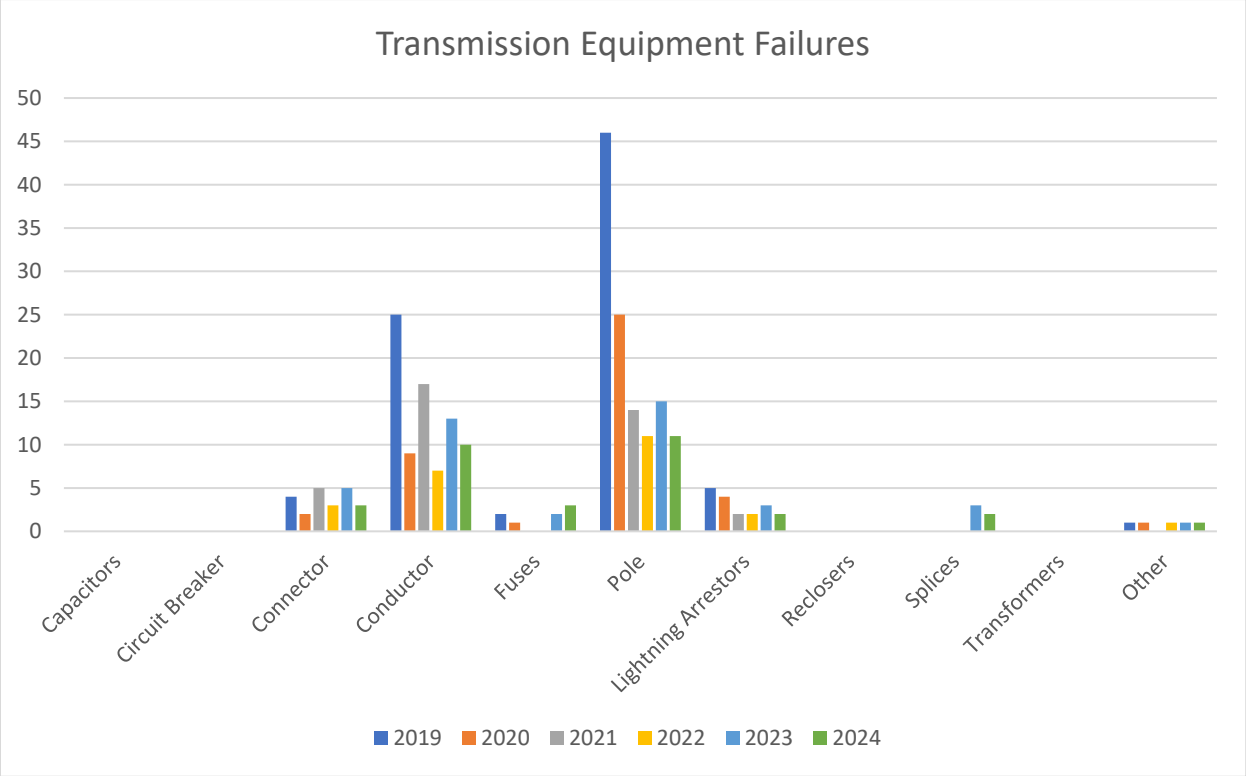
Figure 8-2. Distribution Ignitions



Similarly, SCE reported a downward trend in the number of transmission equipment failures from 2019 to 2024, but the number of ignitions from such equipment failures have not demonstrated such a trend, in part due to a very limited sample size.[256]

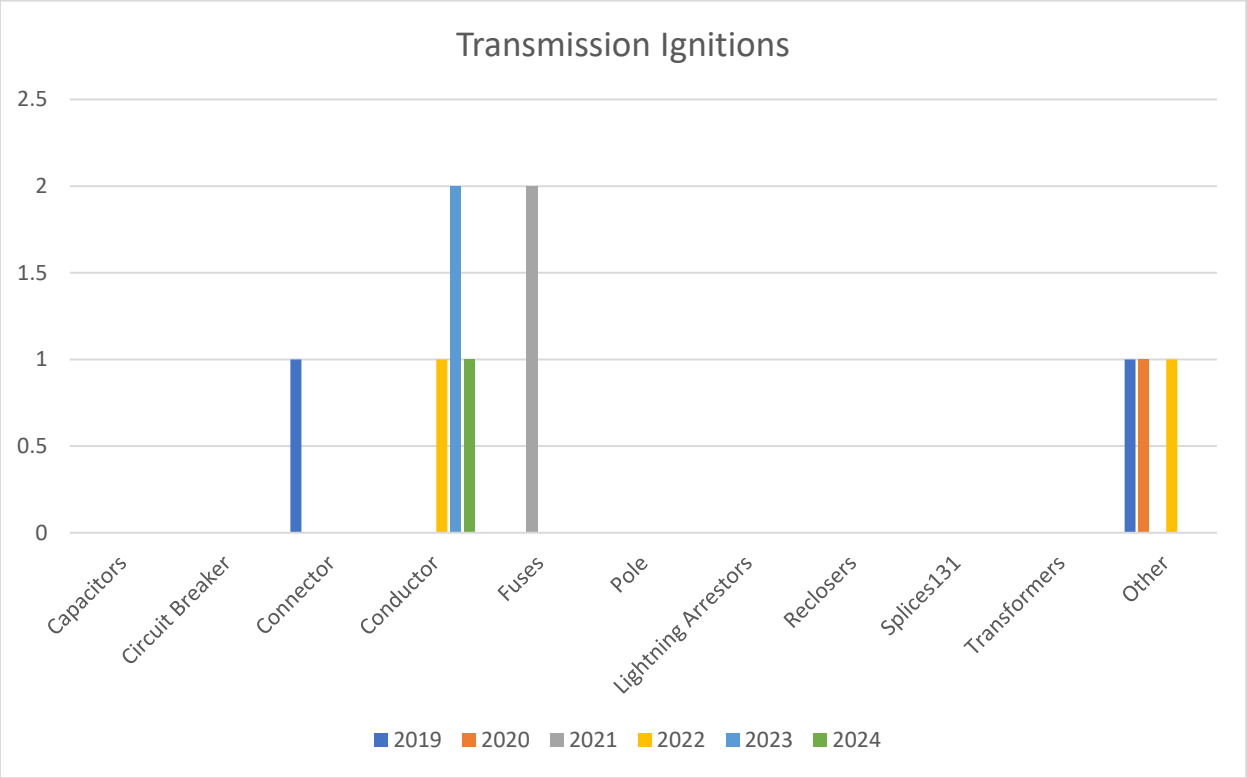
While this reinforces the notion that multiple factors (such as fuel and weather conditions) impact whether an equipment failure will result in an ignition, over time, less equipment failures will likely lead to less equipment failure related ignitions. Figures 8-3 and 8-4, shown below illustrate SCE's transmission equipment failures and ignitions over time. The downward trend in equipment failures suggests that SCE's inspection and maintenance practices have improved over time, and more equipment is being repaired or replaced prior to failure.

Figure 8-3. Transmission Equipment Failures



[256] SCE 2026-2028 Base WMP, R2, page 302.

Figure 8-4. Transmission Ignitions



8.2.4 Quality Assurance and Quality Control (QA/QC)

In its 2026-2028 Base WMP, SCE stated that it mitigates wildfire risk by performing QA/QC audits on HFRI inspections, distribution construction, and transmission construction.[257] SCE stated that it targets a confidence level of greater than or equal to 96 percent and a margin of error less than or equal to three percent for all initiative audits.[258] SCE stated that it targets a pass rate of 94 percent for all initiative audits except distribution construction, which targets a pass rate of 91 percent.[259] SCE's pass rate targets, confidence levels, and margins of error are generally comparable to those of the other large electrical corporations.[260, 261]

[257] SCE 2026-2028 Base WMP, R2, page 306.

[258] SCE 2026-2028 Base WMP, R2, page 306.

[259] SCE 2026-2028 Base WMP, R2, page 306.

[260] PG&E 2026-2028 Base WMP, R2, page 309. Pass rate targets range from 80-97%, confidence levels 95-99%, and margin of error 1-5%.

[261] SDG&E 2026-2028 Base WMP, R2, pages 214-217. Pass rate targets range from 90-98%, confidence levels 95%, and margin of error 2%.

8.2.5 Work Orders

In its 2026-2028 Base WMP, SCE reported 5,474 past due work orders with ignition risk potential as of December 31, 2024.[262]

SCE demonstrated continued progress in closing overdue work orders. Specifically, from 2020 to 2022, SCE was able to close more ignition risk work orders than it created.[263] In 2023 and 2024, SCE created more ignition risk work orders than it was able to close, but SCE also identified an average of 30,000 more ignition risk conditions per year from 2023-2024 compared to the previous years.[264] SCE was also able to close 30,000 more ignition risk conditions in 2024 than 2023, which demonstrates that SCE made progress closing its work orders.[265]

However, given the remaining 5,474 past due work orders with ignition risk potential, SCE should continue tracking its work orders, identifying more conditions for remediation, and remediating more conditions. Energy Safety will continue to monitor the number of ignition risk conditions SCE is identifying and closing via reporting required in the WMP Guidelines.[266]

8.2.6 Grid Operations and Procedures

SCE uses multiple types of PEDS technologies and Fast Curve Settings to detect faults and shut off electricity as part of its grid operations and procedures. Fast Curve Settings on circuit breakers and reclosers are PEDS that stop the flow of electricity when a fault is detected on a line, e.g., tree branch contact with the line. SCE's other PEDS technologies include Transmission Open Phase Detection (TOPD), Distribution Open Phase Detection (DOPD), and High Impedance (Hi-Z) Relays.[267] TOPD and DOPD target open-phase (broken conductor) conditions; hence these protective settings are not a direct causation of outages as an outage would have occurred due to a broken conductor regardless of TOPD or DOPD implementation. TOPD and DOPD protective relays only help to detect and deenergize in the event of a broken conductor, but alone do not cause an outage.[268]

However, Hi-Z differs fundamentally from TOPD and DOPD because it is an operating system designed to detect low-current faults that traditional overcurrent elements (TOPD and DOPD)

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[262] SCE 2026-2028 Base WMP, R2, page 315.

[263] Response to Data Request 5.

[264] Response to Data Request 5.

[265] Response to Data Request 5.

[266] WMP Guidelines, pages 97-98.

[267] SCE 2026-2028 Base WMP R2, pages 396-399.

[268] SCE 2026-2028 Base WMP R2, pages 396-399

may not detect.[269] SCE is currently piloting its Hi-Z scheme on its relays by operating Hi-Z in alarm mode; that is, when a fault is detected, an alarm is received, and SCE analyses available relay data to determine the appropriate response.[270] SCE expects to continue piloting its Hi-Z scheme and install up to 60 Hi-Z relays over the 2026-2028 WMP period.[271]

SCE must report on its evaluation and validation of Hi-Z efficiency for detecting events in the field. These reporting requirements are outlined in area for continued improvement SCE-26B-14: Analysis and Validation of High-Impedance (Hi-Z) Relay Settings.

8.3 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to grid design, operations, and maintenance where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

8.3.1 SCE-25U-03. Continuation of Grid Hardening Joint Studies

For this area for continued improvement, Energy Safety required SCE to continue collaborating with the other large IOUs[272] to evaluate various aspects of grid hardening and provide an updated Joint IOU Grid Hardening Working Group Report in its 2026-2028 Base WMP.[273]

8.3.1.1 SCE-25U-03: SCE Response Summary

In its 2026-2028 Base WMP, SCE provided a copy of the updated Joint Grid Hardening Working Group Report and stated that it collaborates in monthly and quarterly joint IOU meetings to assess covered conductor, undergrounding, protective equipment and device settings, new technologies, overall effectiveness of mitigation, and applications in the WMP.[274]

8.3.1.2 SCE-25U-03: Energy Safety Evaluation

SCE's response to this area for continued improvement demonstrated ongoing participation in the Joint IOU Grid Hardening Working Group. However, the narrative in Appendix D where

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[269] SCE 2026-2028 Base WMP,R2, page 399.

[270] SCE 2026-2028 Base WMP, R2, page 399.

[271] SCE 2026-2028 Base WMP, R2, page 406.

[272] Here the joint IOUs refer to large electrical corporations SDG&E, PG&E, SCE.

[273] Decision on SCE 2025 WMP Update, pages 52-53.

[274] SCE 2026-2028 Base WMP, R2, Appendix F3, pages 653-690.

this is discussed lacks detail on how the joint studies have directly informed SCE's WMP initiatives and activities, especially regarding technology selection, target setting, or lessons learned.[275] SCE's response would be strengthened by providing clear examples of decisions, policy changes, or implementation adjustments made because of these collaborative studies.

Overall, SCE's response partially meets the requirement since it confirms ongoing participation in the Joint IOU Grid Hardening Working Group. However, SCE's response lacks sufficient explanation on applied outcomes and improvement from this collaboration. Electrical corporations must maintain various collaborations relating to grid hardening in order to demonstrate continued knowledge sharing and joint exploration and improvements. As such, SCE must continue to improve in this area for its next Base WMP through area for continued improvement SCE-26B-11: Continuation of Grid Hardening Joint Studies.

8.3.2 SCE-25U-04. Consideration of Prior Actuals in Grid Hardening Targets

For this area for continued improvement, Energy Safety required SCE to both explain its process for accounting for its prior years' actuals when setting grid hardening targets, and demonstrate that it has appropriately accounted for its prior years' actuals in the grid hardening targets in SCE's 2026-2028 Base WMP.[276]

8.3.2.1 SCE-25U-04: SCE Response Summary

In its 2026-2028 Base WMP, SCE described the process for its actuals accounting and how it calculated prior year targets.

SCE stated that it set 2026 to 2028 grid hardening targets (including covered conductor, undergrounding, and REFCL) based on lessons learned from prior years and increasing project complexity.[277] SCE also explained that early covered conductor work targeted easier high-risk miles, while remaining miles faced greater logistical and permitting challenges.[278]

For its undergrounding targets, SCE acknowledged that it missed undergrounding targets for 2023 and 2024 due to permitting/easement delays and adjusted future targets using a detailed "bottoms-up" project review.[279]

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[275] SCE 2026-2028 Base WMP R2, pages 689-690.

[276] Decision on SCE 2025 WMP Update, pages 54.

[277] SCE 2026-2028 WMP R2, page 586.

[278] SCE 2026-2028 WMP R2, p 586

[279] SCE 2026-2028 WMP R2, pp. 586-587

For REFCL installations, SCE stated that REFCL installations are complex and site-specific, with limited past deployment, and that future REFCL targets reflect engineering and procurement realities.[280]

8.3.2.2 SCE-25U-04: Energy Safety Evaluation

SCE's response to this area for continued improvement acknowledged prior overachievement in covered conductor installations and identified increasing logistical and permitting challenges as reasons for the adjusted targets. These explanations meet the requirements for response and give Energy Safety the necessary insight into SCE's decision-making for setting its grid hardening targets. SCE also adjusted its 2026-2028 Base WMP targets based on the results of its project review to identify challenges, demonstrating that SCE is improving its process based on lessons learned. As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement.

8.3.3 SCE-25U-05. Transmission Conductor Splice Assessment

For this area for continued improvement, Energy Safety required SCE to provide specific information for each transmission conductor inspection performed in 2023 and 2024 in SCE's 2026-2028 Base WMP.[281] The required information includes items such as the dates of SCE's inspections (including x-ray inspections), the circuits inspected, and the finding issue category.[282] Energy Safety also required SCE to discuss its plans to mitigate risks associated with SCE's transmission splices.[283]

8.3.3.1 SCE-25U-05: SCE Response Summary

In its 2026-2028 Base WMP, SCE provided the required data and explanations required by this area for continued improvement. For example, SCE stated that in 2025 it will no longer perform X-ray inspections and will instead will begin proactively shunting splices.[284] SCE also stated that it established its Transmission Proactive Splice Shunting Program activity (SH-20) and set a target of 500 shunted splices in 2026.[285] SCE did not set targets for 2027 or 2028, stating it will set targets based on information gathered and lessons learned in 2026.[286]

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[280] SCE 2026-2028 WMP R2, p 587

[281] Decision on SCE 2025 WMP Update, page 54.

[282] Decision on SCE 2025 WMP Update, page 54.

[283] Decision on SCE 2025 WMP Update, page 54.

[284] SCE 2026-2028 Base WMP, R2, page 589.

[285] SCE 2026-2028 Base WMP, R2, page 219.

[286] SCE 2026-2028 Base WMP, R2, page 589.

8.3.3.2 SCE-25U-05: Energy Safety Evaluation

SCE provided the required data for Energy Safety to better understand SCE's decision-making regarding SCE's splice shunting. Energy Safety recognizes SCE's decision to proactively shunt splices arose from lessons learned from SCE's own data, and that doing so helps minimize time during which the system is exposed to risk.

Given that SCE will begin proactively shunting splices in 2025, Energy Safety will monitor this activity in the next few years. Therefore, in its next Base WMP submission, SCE must discuss lessons learned from the shunting performed in 2025 and 2026, including providing an evaluation of its splice shunting capacity as discussed in Section 8.2.6.4 of its 2026-2028 Base WMP, an estimate of the total number of existing transmission splices SCE expects require shunting over the lifetime of this program, and must set shunt targets. As such, SCE must continue to improve in this area for its next Base WMP through area for continued improvement SCE-26B-16: Transmission Proactive Splice Shunting Update.

8.3.4 SCE-25U-06. Transmission High Fire Risk-Informed Inspections

For this area for continued improvement, Energy Safety required SCE to explain in its 2026-2028 Base WMP how it plans to overcome environmental and access issues to perform transmission high fire risk-informed inspections.[287] Energy Safety required SCE to identify access issues, discuss how issues are being addressed, provide the number of assets inspected on schedule from 2022 to 2024, provide the number of assets not inspected on schedule from 2022-2024 due to constraints, and provide the number of assets not inspected within one year of the scheduled inspection data due to access constraints.[288]

8.3.4.1 SCE-25U-06: SCE Response Summary

In its 2026-2028 Base WMP, SCE provided the explanations required by this area for continued improvement.

SCE reported all instances where it was able or unable to perform inspections. SCE stated it performed 18,035 inspections on time in 2022; 29,707 in 2023; and 32,397 in 2024.[289] SCE stated that it did not perform 232 inspections in 2022; 126 in 2023; and 33 in 2024 due to access constraints.[290] Finally, SCE stated that it did not perform 89 inspections in 2022 and 14

[287] Decision on SCE 2025 WMP Update, pages 55.

[288] Decision on SCE 2025 WMP Update, pages 55.

[289] SCE 2026-2028 Base WMP, R2, page 593.

[290] SCE 2026-2028 Base WMP, R2, page 593.

inspections in 2023 within one year of the originally scheduled date due to access constraints.[291]

SCE disclosed the primary constraints impacting its ability to perform inspection as access to property, inaccessible roads, and obstructions s.[292] For each constraint, SCE elaborated on the specific types of constraints encountered and how it plans to overcome those constraints.

For example, SCE identified issues obtaining permission to access the property as constraints under property access or structure.[293] For private property, constraints could include a lack of response from the property owner, or hostility and/or denial of property access.[294] For lands under governmental control or "CROPS," permitting is often the constraint. [295] This is because often multiple agencies are responsible for granting access permission or permits, different agencies process permits at different speeds, and SCE must meet various prerequisites to obtain access.[296] For solutions to these constraints, SCE proposes to engage with property owners to validate requests and schedule inspections, coordinate with law enforcement to counter hostility, and implement project management practices to coordinate with government agencies or CROPS.[297]

For SCE's inaccessible roads constraint, SCE stated that access roads to the inspection sites often deteriorate, so SCE tries to avoid using dirt roads within 72 hours of rain events to avoid accelerating deterioration.[298] To counter this constraint, SCE performs road grading and vegetation management to ensure consistent access.[299] SCE reported that it repaired more than 750 miles of roads in 2023 and 2024, reestablishing access to 7,300 structures.[300]

Finally, for the obstructions constraint, SCE reported that customer construction or vegetation growth can block access to structures.[301] To counter this constraint, SCE issues

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[291] SCE 2026-2028 Base WMP, R2, page 594.

[292] SCE 2026-2028 Base WMP, R2, pages 590-591.

[293] SCE 2026-2028 Base WMP, R2, pages 590-591.

[294] SCE 2026-2028 Base WMP, R2, pages590-591.

[295] SCE 2026-2028 WMP, R2, page 591. "SCE term used to refer to agencies/organizations such as The Nature Conservancy, Conejo Open Space Conservation Agency, Laguna Canyon Foundation, and Natural Communities Coalition, etc."

[296] SCE 2026-2028 Base WMP, R2, pages 590-591.

[297] SCE 2026-2028 Base WMP, R2, page 592.

[298] SCE 2026-2028 Base WMP, R2, page 591.

[299] SCE 2026-2028 Base WMP, R2, page 592.

[300] SCE 2026-2028 Base WMP, R2, page 592.

[301] SCE 2026-2028 Base WMP, R2, page 591.

customer clearance notifications for customer obstructions and vegetation trim notifications for vegetation encroachments to ensure access.[302]

8.3.4.2 SCE-25U-06: Energy Safety Evaluation

SCE provided all the information required by this area for continued improvement. SCE provided a detailed account of constraints impacting its inspections and discussed how it is addressing the constraints, including environmental and access issues. [303, 304]

SCE also provided the number of inspections completed on time and delayed due to constraints in 2022, 2023, and 2024, and the number of inspections delayed by over a year in 2022 and 2023.[305, 306] Finally, SCE reported that it set targets of 27,700 inspections for each year in 2026-2028.[307] By providing all the information that Energy Safety required, SCE met all the requirements of this area for continued improvement. As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement.

8.4 Areas for Continued Improvement for Future WMP Submissions

As discussed above, Energy Safety has identified areas pertaining to grid design, operations, and maintenance where the electrical corporation must demonstrate improvement in a future, specified WMP submission. This section sets forth the requirements for improvement.

8.4.1 SCE-26B-11. Continuation of Grid Hardening Joint Studies

Summary: Large electrical corporations have continued to progress in prior areas for continued improvement through the Joint IOU Grid Hardening Working Group. In response to area for continued improvement SCE-25U-03, the electrical corporations submitted a comprehensive 2026–2028 update evaluating the effectiveness of key grid-hardening strategies, supported by field observations, degradation studies, and risk modeling results. To further mature and evolve the Grid Hardening Joint Study, Energy Safety has included

[302] SCE 2026-2028 Base WMP, R2, page 592.

[303] SCE 2026-2028 Base WMP, R2, page 590-592.

[304] SCE 2026-2028 Base WMP, R2, page 592-593.

[305] SCE 2026-2028 Base WMP, R2, page 593.

[306] SCE 2026-2028 Base WMP, R2, page 593.

[307] SCE 2026-2028 Base WMP, R2, page 274.

inspection activities as part of the study. Inspection programs serve as the eyes on the ground, and drive grid hardening activities.

As the large electrical corporations have matured, their detailed distribution inspection programs have diverged. PG&E performs predominantly aerial inspections,[308] SCE performs combined aerial and ground inspections,[309] and SDG&E performs ground inspections. Given that most electrical corporation assets are monitored through visual inspection[310, 311, 312] and only repaired or replaced when a condition is identified during an inspection,[313, 314, 315] it is critical that detailed distribution inspections effectively identify Level 1 and 2 conditions for remediation to minimize wildfire risk.

This collaborative effort must continue and be further strengthened through structured data sharing, targeted lessons learned, and evaluation of emerging technologies. Continued cross-utility analysis will ensure best practices are identified and implemented across jurisdictions, and that grid hardening investments are informed by robust cost-effectiveness, performance, and risk-reduction analyses.

Requirements: In its next Base WMP, SCE must continue collaboration with electrical corporations and provide an updated Joint IOU Grid Hardening Working Group Report. The electrical corporations must complete and provide a joint study and report by March 1, 2028, to the 2026-2028 Base WMP Docket (#2026-2028-Base-WMPs), and include that report in their subsequent Base WMP submission. The report must include:

- Undergrounding Applications: a joint evaluation of the wildfire and PSPS risk reduction of undergrounding efforts, inclusive of residual risks from service and secondary lines. This must include updated insights on supply chain issues, workforce management, permitting timelines, and new technologies (e.g., Ground-Level Distribution Systems, spider plow methods, fluid-free boring).
- Lessons Learned on Undergrounding Deployment: the incorporation of updated findings on labor and material usage, technological innovations, and cost management practices, particularly those that address high unit costs and scale variability.

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[308] PG&E, Response to Data Request 05, Question 1; PG&E, Response to Data Request 19, Question 2.

[309] SCE, 2026-2028 Base WMP R2, Page 275.

[310] PG&E, 2026-2028 Base WMP R2, Pages 264-304.

[311] SCE, 2026-2028 Base WMP R2, Pages 293-298.

[312] SDG&E 2026-2028 Base WMP R2, Pages 206-207.

[313] PG&E, 2026-2028 Base WMP R2, Pages 264-304.

[314] SCE, 2026-2028 Base WMP R2, Pages 293-298.

[315] SDG&E, 2026-2028 Base WMP R2, Pages 206-207.

- Protective Equipment and Device Settings: a continued evaluation of settings (e.g., downed conductor detection, partial voltage detection), including threshold variation across electrical corporations, effectiveness by equipment type, safety and reliability tradeoffs, and lessons learned.
- Technology Deployment: a joint analysis of REFCL. This must describe observed effectiveness and implementation feasibility across electrical corporations. Additionally, the analysis must include updated insights on supply chain issues (if any), technological innovations, and current capital and maintenance costs of REFCL.
    - SCE must report results, protocols, construction practices, and cost estimates associated with its REFCL (Ground Fault Neutralizer and Grounding Conversion) pilots, which have reported zero ignitions post-implementation.
    - SCE must update its "Rapid Earth Fault Current Limiter (REFCL) Projects at Southern California Edison" (2022) report. Additionally, SCE must report on the impact of REFCL enablement on its PSPS events and thresholds, and SCE's approach to new substation projects and its approach to including or not including REFCL at the time of build.
- Distribution Detailed Inspection Benchmarking Study: a benchmarking study comparing SCE, PG&E and SDG&E's detailed inspection job-aids, training, procedures, and checklists. The large electric corporations must be able to provide all documentation created as part of this study upon request from Energy Safety.
    - As part of the benchmarking study, the large electrical corporations must, at a minimum:
        - Review and compare PG&E's Overhead Inspection Job Aid TD-2305M-JA02[316], PG&E's Electric Distribution Preventive Maintenance Manual TD-2305M[317], SCE's Distribution Inspection and Maintenance Program (DIMP)[318], SDG&E's detailed distribution inspection documentation, and any other documentation relevant to the execution of distribution detailed inspections.
        - Review and compare each large electrical corporation's detailed distribution inspector training programs, including any feedforward and feedback processes.
            - Evaluate how differences in each of the large electrical corporation's detailed inspection programs, including inspection procedures and

[316] PG&E, TD-2305M-JA02 Overhead Assessment.

[317] PG&E, Electric Distribution Preventive Maintenance Manual TD-2305M.

[318] SCE, DIMP Manual.

inspector training, could result in differences in their find rates for level 1 and 2 conditions.

- Evaluate how differences in each of the large electrical corporation's detailed inspection programs, including procedures and inspector training, could result in differences in due dates assigned to similar level 2 conditions.

- Host at least one joint meeting to discuss differences identified between the detailed distribution inspection programs, and reasons for the differences. Each large electrical corporation must be able to provide the agenda, documenting the topics of discussions, or other similar documentation for the meetings, if requested by Energy Safety.
- Include in the joint study report the results of the Distribution Detailed Inspection Benchmarking Study, including:
  - The differences among SDG&E's, PG&E's, and SCE's detailed distribution inspection job-aids, training, procedures, and checklists, as identified during its evaluation of the large electrical corporation's inspection programs and the reasons for the differences.
  - The methodology, result, and conclusions of the joint utility inspection benchmarking study.
  - The changes that SCE has made or plans to make to its detailed inspection job-aids, training, procedures, and checklists because of the benchmarking study.
    - If SCE elects to make no change to its detailed inspection portfolio after the benchmarking study, it must submit a white paper on its detailed distribution inspection program. The white paper must demonstrate the effectiveness of SDG&E's detailed inspections through conclusions supported by the benchmarking study.

SCE must demonstrate it is initiating the development of a trend analysis for its covered conductor program and sharing its structure, assumptions, and early findings with the Joint Working Group.

Discussed in: Sections 8.2.1.6 Installation of system automation equipment, and 8.3.1.2 SCE-25U-03: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.2 SCE-26B-12. De-energized Transmission Line Assessment and Removal

Summary: Large electrical corporations and SMJUs have de-energized but unremoved transmission lines within the HFTD for various operational reasons. These de-energized transmission line segments, especially those that run parallel to energized transmission lines, pose a potential wildfire risk due to inadvertent re-energization. Risk levels of these de-energized lines are dependent on grounding configurations, proximity to energized lines, and vegetation contact.

Large electrical corporations and SMJUs define, assess, and mitigate risk associated with these de-energized lines differently. Some electrical corporations have undertaken detailed circuit level or simulation-based studies to quantify risks, while others have not. Definitions of terms such as "de-energized," and "abandoned" lines also vary across electrical corporations, further complicating comparisons and evaluations across electrical corporations.

SCE maintains 305 miles of de-energized transmission lines that run parallel and within 1,000 feet of energized transmission lines within its HFRA. SCE does not have a line-by-line risk analysis nor are any of these lines planned for removal in 2026 through 2028.[319]

To ensure large electrical corporations and SMJUs are managing wildfire risks from unremoved de-energized transmission lines, Energy Safety requires the electrical corporations to provide a terminology framework, provide a circuit level risk assessment, incorporate lessons learned from existing studies, provide a comprehensive mitigation strategy, and report its inspection and maintenance protocols for unremoved de-energized transmission lines in the HFTD.

Requirements: In its next WMP Update, SCE must:

- Collaborate with other large electrical corporations and SMJUs to submit a joint cross-utility terminology framework that establishes consistent definitions for the following:
  - De-energized transmission lines.
  - Abandoned transmission lines.
    - If the large electrical corporations' and SMJUs' definition for "abandoned transmission lines" is different from the definition in GO 95, Rule 31.6 for "permanently abandoned lines," the large electrical corporations and SMJUs must explain the difference between the two terms and their usage.

[319] Response to Data Request 4.

  - Any other types of transmission line designations, such as "idle," that the electrical corporation uses for de-energized or no longer in use transmission lines that have not yet been removed.

- Provide a Circuit Level Risk Assessment. For de-energized, abandoned, or other similarly situated transmission circuits that are located in the HFTD, SCE must:
  - Identify potential ignition hazards such as electrostatic or electromagnetic coupling with adjacent energized lines, identify the factors that affect the risk of these hazards causing ignitions, and provide a risk analysis; and
  - Specify whether the line is grounded (single-point, multi-point, ungrounded), and how grounding configuration affects induction risk.
- Incorporate Lessons Learned from Existing Studies. The methodology for the risk assessment must include, at minimum:
  - Evaluation of grounding configurations and their impacts on fault current magnitudes (as shown in SDG&E's study "Corridor Induction Risk Assessment of Out-of-Service Transmission Lines in SDG&E HFTD"[320] and PacifiCorp's "Idle Line Study"[321]);
  - Spatial distance between energized and de-energized lines and the orientation of line configurations (horizontal vs. vertical stacking); and
  - Sensitivity analysis on variables such as fault location, fault resistance, and line length, especially under fault-current scenarios.
- Provide a Comprehensive Mitigation Strategy. If applicable, each large electrical corporation and SMJU must provide an existing plan or develop a new plan that includes:
  - Identification of de-energized, abandoned, or other similarly situated transmission lines;
  - A decision-making process for the removal, modification of grounding configuration, or other mitigation of de-energized, abandoned, or other similarly situated transmission lines based on ignition risk; and
    - If identified de-energized transmission lines are subject for future use, describe its planned use, its grounding-configuration, and any intermittent mitigation strategies.
  - Timeline for mitigation actions, including short-term and long-term activities.
- Report Inspection and Maintenance Protocols. SCE must:

[320] Response to Data Request 10, Attachment 1.

[321] PacifiCorp, Idle Line Study. Attach OEIS 7.6-1

- Describe its inspection and maintenance process for de-energized, abandoned, or other similarly situated transmission circuits in the HFTD. This description must highlight any differences between the inspection and maintenance of energized versus de-energized, abandoned, or other similarly situated transmission circuits.
    - For each de-energized, abandoned, or other similarly situated transmission circuit in the HFTD, SCE must list the frequency and type of asset and vegetation inspections performed, the remediation timeframe for each priority of condition identified during inspection, and any routine maintenance performed.
    - For any de-energized, abandoned, or other similarly situated transmission circuit in the HFTD that is not subject to the same frequency and/or type of inspection, condition remediation timeframe, or routine maintenance work as similar, energized circuits, SCE must provide its decision-making process for reaching this determination.
- Outline any planned changes to the inspection and maintenance of de-energized, abandoned, or other similarly situated transmission circuits in the HFTD.

Discussed in: Section 8.2.1.7 Line removal in the HFTD

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.3 SCE-26B-13. Forward-looking Pole Replacement Strategy

Summary: SCE's current approach to both distribution and transmission pole replacements and reinforcements is primarily reactive in nature, where SCE performs replacements or reinforcements after it finds degraded conditions. Moreover, SCE does not track or categorize pole replacements and reinforcements as a standalone activity, instead categorizing these activities under broader asset management programs without discrete activity targets. Energy Safety requires SCE to transition these programs to a more forward-looking strategy. This will help reduce ignition risk on SCE's system and decrease work orders in areas with high fire risk.

Requirements: In its next Base WMP, SCE must:

- Identify a Tracking ID and set annual targets for its distribution pole replacements and reinforcements activity in the HFTD.
- Identify a Tracking ID and set annual targets for its transmission pole/tower replacements and reinforcements activity in the HFTD.

- Provide a backlog reduction plan for "Pole-Replace" work orders with "Ignition Risk" in HFTDs, including a timeline and prioritization based on risk tier and severity.
- Provide a future replacement prioritization strategies and historical trend analysis of pole failure-related outages and ignitions that informed the strategies. The analysis must identify drivers of pole failure, and discuss what can and cannot be identified through inspection programs.

Discussed in: Section 8.2.1.3 Transmission and Distribution Pole Replacements and Reinforcements

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.4 SCE-26B-14. Analysis and Validation of High-Impedance (Hi-Z) Relay Settings

Summary: SCE uses several PEDS technology to detect faults and shut off electricity flow. Hi-Z, unlike other technologies used by SCE, increases sensitivity to detect low-current faults that traditional overcurrent elements may not detect. SCE must present findings from its field evaluation and validation of Hi-Z efficacy, with respect to wildfire-risk reduction and potential impacts to system reliability.

Requirements: In its next Base WMP, SCE must:

- Track and report the number and characteristics of high-impedance faults, including wire-down events not resulting in automatic de-energization, within this WMP cycle. SCE must differentiate faults detected on bare wire, covered conductor, and distribution voltage level.
    - SCE must perform a trend analysis compared to its historical data, up to 2023.
- Provide a comprehensive field validation report for Hi-Z relays. This report must include metrics such as detection accuracy, fault types detected, nuisance trip rates (if any), and comparative analysis between Hi-Z-detected faults and conventional protection schemes.
- Discuss the changes it plans to make to its Hi-Z operational mode (alarm-only vs. trip-enabled) based on findings, with a timeline for any proposed deployment expansion or adjustments.
    - SCE must discuss how Hi-Z and related settings or technologies will lower the likelihood of a wire down event not automatically de-energized, for both bare wire and covered conductor.

Discussed in: Section 8.2.6. Grid Operations and Procedures

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.5 SCE-26B-15. Distribution Splice Failure Tracking

Summary: In its 2026-2028 Base WMP, SCE states that splice failures are not typically tracked and are instead recorded to the conductor or structure.[322] From 2019 to 2024, SCE recorded zero splice failures and 4,724 conductor failures.[323] Without an accurate record of splice failures, it is difficult to determine if maintenance or inspection adjustments focused on preventing splice failures are warranted to improve SCE's distribution system health. A more granular record of failures and ignitions will provide increased visibility of the risks presented by each of the individual equipment types.

Requirements: In its next Base WMP, SCE must detail a process to record splice failures separately from conductor failures.

Discussed in: Section 8.3.3.2 SCE-25U-05: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.6 SCE-26B-16. Transmission Proactive Splice Shunting Update

Summary: SCE demonstrated positive progress by establishing a proactive splice shunting program. SCE provided a target for 2026, but stated that it plans to develop shunt replacement targets for 2027 and 2028 based on learnings from 2026.

Requirements: In its next Base WMP, SCE must:

- Discuss lessons learned from the shunting performed in 2026,
- Provide an evaluation of its splice shunting capacity, including the number of splices that it determines it can shunt annually, an explanation of how SCE determined this number, an identification of the constraints that limit the number of shunts that can be installed annually, and a plan to mitigate the constraints where feasible,
- Provide an estimate of the total remaining transmission splices SCE expects require shunting over the lifetime of this program, and
- Set shunt targets that demonstrate consideration of SCE's splice shunting capacity and the number of splices not yet shunted in SCE's Severe Risk and High Consequence Areas.

Discussed in: Sections 8.2.2.6 Discontinued Transmission Conductor and Splice Assessment and 8.3.3.2 SCE-25U-05: Energy Safety Evaluation

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[322] SCE 2026-2028 Base WMP, R2, page 301.

[323] SCE 2026-2028 Base WMP, R2, page 301.

Appendix C provides a consolidated list of areas for continued improvement and requirements.

8.4.7 SCE-26B-17. Coordination of Protective Device Settings on the Zanja Supply Line

Summary: SCE's supply line from the Zanja Substation to BVES Radford Circuit has reported challenges achieving recloser coordination.[324] These limitations may lead to reliability and outage issues. Energy Safety requires SCE to work with BVES to resolve these issues to reduce the risk of faults and ensure wildfire risk mitigation is properly implemented.

Requirements: In its next WMP Update, SCE must:

- Provide a detailed plan for addressing protective device settings coordination between SCE and BVES on the Zanja supply line.
- Include proposed protection scheme changes, coordination studies, and expected risk reduction outcomes.
- Submit documented communication and collaboration efforts with BVES, including milestones and progress reports.
- Include timelines for implementing protective device coordination improvements.

Discussed in: Section 8.2.1.1 Covered conductor installation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

[324] BVES, Response to Data Request 4.

9. Vegetation Management and Inspections

Chapter III, Section 9 of the WMP Guidelines requires the electrical corporation to include plans for vegetation management in its WMP. [325] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

9.1 Summary of Anticipated Risk Reduction

SCE demonstrated growth in its vegetation management work, including expanding its enhanced clearances, modifying model criteria to more precisely target vegetation work, and increasing structure brushing targets.

SCE observed a decrease in vegetation-caused outage events associated with expanded clearance distances.[326] In recognition of this decrease in outages, SCE standardized the use of expanded clearance distances for Routine Line Clearing.[327] This standardized use of expanded clearances demonstrates program maturity that may lower wildfire risk. This is because enhanced clearances will likely cause fewer instances of vegetation contact with energized infrastructure and the resulting generation of sparks or arcs that may ignite wildfires, thereby reducing vegetation-caused outages.

Additionally, SCE modified its area of concern (AOC) risk criteria within its IWMS model to help "inform decision-making processes" as riskier weather approaches.[328] The expanded AOC criteria includes new locations, a Building Loss Factor (BLF) parameter, and an adjustment for fuels near the Wildland Urban Interface.[329] These model modifications are likely to reduce wildfire risk by allowing SCE to more accurately identify locations with higher risk as fire weather approaches, and thus more precisely target that risk.

Finally, SCE targets inspections and completes structure brushing work when necessary at 135,000 structures outside the State Responsibility Area in the HFRA.[330] These structures are in addition to work completed to maintain compliance with Public Resources Code section (PRC) 4292 within the State Responsibility Area. SCE indicated that this additional structure

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[325] Pub. Util. Code §§ 8386(c)(3), (9).

[326] SCE 2026-2028 Base WMP, R2, page 349.

[327] SCE 2026-2028 Base WMP, R2, page 349.

[328] SCE 2026-2028 Base WMP, R2, page 363.

[329] SCE 2026-2028 Base WMP, R2, page 363.

[330] SCE 2026-2028 Base WMP, R2, pages 335 and 350.

brushing target (VM-2.1) will contribute to an approximate four percent annual reduction in risk throughout its 2026-2028 WMP cycle.[331] This additional structure brushing work goes beyond regulatory requirements and may reduce ignition risk by removing vegetative fuels that could ignite at the base of PRC 4292 exempt structures.

9.2 Discussion

This section discusses Energy Safety's evaluation of the vegetation management and inspections section of the SCE 2026-2028 Base WMP.

9.2.1 Inspections

9.2.1.1 Inspections for Vegetation Clearances from Distribution and Transmission Lines

SCE demonstrates program effectiveness by committing to inspect all distribution (VM-7) and transmission (VM-8) circuit miles within its HFRA. Specifically, in *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year*, SCE set quarter four targets for 2026, 2027, and 2028 to "[i]nspect 100% of distribution circuit miles in HFRA."[332, 333]

While SCE introduced equivocating language in sections 9.2.1.5 and 9.2.2.5 that appeared to soften its distribution and transmission inspection targets, it did clarify its commitments in a data request response. Specifically, SCE stated in its 2026-2028 Base WMP that "[c]ompletion of this scope may be constrained by environmental conditions and risk prioritization efforts."[334] SCE clarified this statement in its response to Data Request 18, Question 1, by explaining that "[w]hile the timing of inspection work may not always adhere to the original planned schedule, it is ultimately completed."[335] Furthermore, SCE responded in the same data request that inspection "work is monitored to ensure completion."[336]

These explanations demonstrate that SCE is firmly committed to meeting its quarter four inspection targets for both its transmission and distribution lines. Energy Safety will require SCE to update its 2026-2028 Base WMP per its data request response in a separate request for errata.

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[331] SCE 2026-2028 Base WMP, R2, page 335.

[332] SCE 2026-2028 Base WMP, R2, page 335.

[333] SCE 2026-2028 Base WMP, R2, page 335.

[334] SCE 2026-2028 Base WMP, R2, page 339; SCE 2026-2028 Base WMP, R2, page 342.

[335] Response to Data Request 18.

[336] Response to Data Request 18.

9.2.1.2 Hazard Tree Management Program (VM-1)

SCE demonstrates resource use efficiency by reducing the number of inspection touchpoints. Specifically, SCE consolidated Hazard Tree Management Program inspections with Vegetation Clearance inspections.[337] Additional discussion of this topic is in Section 9.3.1.1 of the evaluation for SCE-23B-16: Implementation of SCE's Consolidated Inspection Strategy, Use of its Tree Risk Index, and its Satellite-Based Inspection Pilot.

9.2.2 Pruning and Removal

SCE demonstrates forward-looking growth and technical effectiveness by implementing expanded vegetation clearance distances and clearance work trigger distances. SCE observed a decrease in vegetation-caused outage events associated with expanded clearance distances, and now standardized the use of expanded clearance distances for Routine Line Clearing.[338] Expanded clearance distances are achieved in accordance with the recommendations provided in CPUC General Order 95, Appendix E; SCE strives to obtain clearances of 12 feet for distribution lines and 30 feet for transmission lines at the time of trimming.[339, 340] Energy Safety finds SCE has matured in these programs, which may lower wildfire risk.

9.2.3 Pole Clearing

SCE increased the volume and scope of structure brushing work it plans to complete on structures that are exempt from PRC 4292 and will prioritize structures in areas of high fire risk. This may reduce the risk of wildfire because increased structure brushing may decrease vegetation around SCE's infrastructure, thereby reducing the risk of vegetation igniting at the base of structures that are exempt from PRC 4292.[341]

Specifically, SCE stated that it expanded its scope of work for structure brushing performed in addition to PRC 4292 requirements by making incremental adjustments in 2024 to include transmission structures to its additional structure brushing scope for 2025. This was prioritized by SCE's IWMS framework, which targets structures in severe risk areas and high consequence areas. [342] Additionally, SCE stated that it added approximately 200 structures to

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[337] SCE 2026-2028 Base WMP, R2, page 345.

[338] SCE 2026-2028 Base WMP, R2, page 349.

[339] SCE 2026-2028 Base WMP, R2, page 338.

[340] SCE 2026-2028 Base WMP, R2, page 341.

[341] Cal. Code Regs. Tit. 14, § 1255 - Exemptions to Minimum Clearance Provisions-PRC 4292

[342] SCE 2026-2028 Base WMP, R2, pages 350-351.

its sub-transmission structure brushing scope in response to a CPUC-ordered Climate Adaptation Vulnerability Assessment CAVA.[343]

SCE's annual target for additional structure brushing (VM 2.1) is to inspect 135,000 structures that are exempt from PRC 4292 requirements and perform clearing where necessary.[344] Relative to its 2023-2025 Base WMP, this annual target represents an increase of 71,300 structures SCE is planning to clear.[345]

To best ensure that SCE's expansion of its structure brushing program reduces wildfire risk,[346] Energy Safety recommends that SCE prioritize brushing structures that present a high risk of starting a wildfire due to their location and the equipment they hold. Removing vegetation around the base of structures that do not hold energized equipment is unlikely to reduce the system-wide risk of vegetation igniting at the base of structures. For example, in its supplemental response to data request 21, SCE stated that in 2026 it plans to clear approximately 140 guy structures without energized equipment in 2026 amongst its HFRA, State Responsibility Area, Local Responsibility Area (LRA) and Federal Responsibility Area (FRA). [347, 348] This example indicates that SCE plans to expand structure brushing on structures without energized equipment, which is unlikely to reduce the risk of vegetation ignition.

9.2.4 Wood and Slash Management

SCE demonstrates continued progress and forward-looking growth by including a target in its 2026-2028 Base WMP aimed at improving recordkeeping for wood and slash management activities.

Specifically, in its wood and slash contractor management target, SCE stated that it will include mandatory fields in its work management system to document the removal method for all wood and slash (debris) and include mandatory QC fields for sample-based verification.[349] This is important because improper management of debris generated by SCE's vegetation management activities may increase vegetative fuel loads and thus exacerbate wildfire spread should an ignition occur. By documenting the completion of wood and slash removal and verifying that work through its QC program, SCE can better ensure that these

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[343] SCE 2026-2028 Base WMP, R2, pages 350-351.

[344] SCE 2026-2028 Base WMP, R2, page 335.

[345] Please note: The Additional Structure Brushing (VM-2.1) target was referred to as VM-2 in SCE's 2023-2025 Base WMP; SCE 2026-2028 Base WMP, R2, page 335.

[346] SCE 2026-2028 Base WMP, R2, page 335.

[347] Response to Data Request 21, Supplemental.

[348] 140 is calculated by: 10 (SRA and HFRA) + 100 (LRA and HFRA) + 30 (FRA and HFRA) = 140.

[349] SCE 2026-2028 Base WMP, R2, page 333.

activities are effectively carried out. This will likely reduce wildfire risks that result from leaving wood and slash on site.

9.2.5 Defensible Space

SCE demonstrates continued progress by establishing a new qualitative target (VM-14) to conduct field inspections on non-energized water conveyance generation facilities so that it can develop an expanded clearance treatment scope in 2026, which will be implemented in 2027 and 2028.[350] Expanded clearances around these facilities may remove ignition sources, reducing both the risk of fire propagating outside the facilities and the risk of wildfire damage to the facilities.

Furthermore, in 2024 SCE completed its Expanded Clearances for Generation Legacy Facilities (VM-3) target by establishing expanded clearances around its generation legacy facilities.[351] SCE stated that it plans to maintain these expanded clearances through its routine vegetation management activities.[352] Energy Safety recommends SCE document this element of its routine vegetation management program as a unique record that is separate from other routine vegetation management records to ensure clear verification from standalone documentation that SCE is maintaining expanded clearances around generation legacy facilities.

9.2.6 Integrated Vegetation Management

SCE demonstrated continued progress in its integrated vegetation management (IVM) by performing IVM pilot studies, however it may be over-emphasizing herbicides as an IVM technique.

In its 2026-2028 Base WMP, SCE lists four IVM mitigation activities that it explored during the 2023-2025 Base WMP cycle.[353] These activities included the application of Tree Growth Regulators (TGR) to slow the growth of incompatible tree species, a "Low Growth pilot" study that tested various control methods, "bulk trimming" using a helicopter (heli-saw), and goat grazing.[354] Based on the pilot results, SCE is currently incorporating the most effective strategies for maintaining low-growing plant communities into its IVM procedures.[355] SCE stated in its 2026-2028 Base WMP that generally it will combine herbicide, mowing, and hand-

[350] SCE 2026-2028 Base WMP, R2, page 353.

[351] SCE 2026-2028 Base WMP, R2, page 353.

[352] SCE 2026-2028 Base WMP, R2, page 353.

[353] SCE 2026-2028 Base WMP, R2, page 354.

[354] SCE 2026-2028 Base WMP, R2, page 354.

[355] SCE 2026-2028 Base WMP, R2, page 354.

cutting treatments to discourage growth of non-compatible plant species.[356] SCE's continued progress in identifying an effective IVM program will likely reduce the risk of wildfire spreading within SCE's rights-of-way (ROWs).

SCE concluded through its pilot studies that herbicide applications were "the most effective treatment method" within its ROWs. SCE then incorporated herbicides into its IVM treatment methods by updating its "UVM-05 Utility Vegetation Management Integrated Vegetation Management (IVMP)" procedures.[357] SCE also concluded through its pilot studies that:

- It will limit goat grazing, due to cost and effectiveness, to locations where local restrictions disallow herbicide use.[358]
- Despite treating approximately 650 trees with growth regulators from October 2021 to January 2024, the treatments did not reduce trimming frequency and it would abandon this IVM technique.[359]
- The heli-saw's blunt trimming characteristics brought about safety concerns and presented environmental impacts (e.g., disturbing sensitive habitat) and it would cease heli-saw operations.[360]

Energy Safety recognizes SCE's efforts to explore a variety of IVM techniques. However, applying herbicides in place of methods potentially more sustainable in the long-term, like goat grazing, is not forward-looking-growth.[361]

There are several reasons why choosing synthetic chemical treatments over other methods does not demonstrate forward-looking growth. Namely, repeated herbicide use can select for resistant non-native plant populations, rendering an herbicide type unable to control invasive plants.[362] As a result, fuels may accumulate, increasing the likelihood that wildfire will spread within ROWs. Furthermore, while not directly affecting wildfire risk, herbicide use can have unintended harmful impacts to herbicide applicators and wildlife.[363] Such negative

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[356] SCE 2026-2028 Base WMP, R2, page 353.

[357] SCE 2026-2028 Base WMP, R2, page 354; SCE, UVM-05.

[358] SCE 2026-2028 Base WMP, R2, page 354.

[359] SCE 2026-2028 Base WMP, R2, page 354.

[360] Response to Data Request 2.

[361] SCE 2026-2028 Base WMP, R2, page 354.

[362] Sammons and Gains, Glyphosate Resistance: State of Knowledge, 2014.

[363] Hayes et al., Demasculized Frogs Due to Atrazine.; Glyphosate-based Formulations and Non-Hodgkins Lymphoma, 2002.

effects are contrary to IVM principles of selecting "environmentally-sound" vegetation management control methods and therefore do not demonstrate forward-looking growth.[364]

Herbicide may not be the most effective treatment in all areas. Alternatives such as goat grazing, mulching, planting native species that compete with non-native plants, and applying biologicals may be more effective in the long-term than applying synthetic herbicides. SCE should consider further exploring these alternatives to limit its reliance on herbicide.

9.2.7 Partnerships

SCE described several partnerships in its 2026-2028 Base WMP that demonstrate SCE's efforts to decrease its wildfire risk. For example, SCE's "Operation Santa Ana" partnership with CAL FIRE demonstrates collaboration in vegetation clearance from poles and powerlines.[365] Through this partnership, SCE confirmed that its vegetation management practices resulted in obtaining the required clearance distances, and that its practices are effective in reducing wildfire risks.[366] This is also because the scope of the program usually targets areas with the highest fire risk, with a mix of SRA and HFRA boundaries.[367]

Additionally, SCE engages in multiple academic partnerships. SCE's partnerships with the Cal Poly Wildland Urban Interface (WUI) Fire Institute and the International Wildfire Risk Mitigation Consortium demonstrate forward-looking growth by supporting research in vegetation management best practices.[368] SCE's partnership with the San Bernardino Community College District demonstrates continued progress and forward-looking growth by supporting workforce development and ensuring there is a trained workforce in the future.[369]

Finally, SCE's partnership with the U.S. Forest Service demonstrates continued progress by coordinating vegetation management and incident response efforts.[370] The partnership evolved from its initial focus on ROW maintenance and national forest vegetation management to include broader threats from climate change, such as increased wildfire intensity and expansion of WUI areas.[371]

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[364] U.S. EPA, IVM Fact Sheet.

[365] SCE 2026-2028 Base WMP, R2, page 357.

[366] SCE 2026-2028 Base WMP, R2, page 357.

[367] SCE 2026-2028 Base WMP, R2, page 357.

[368] SCE 2026-2028 Base WMP, R2, page 358.

[369] SCE 2026-2028 Base WMP, R2, page 359.

[370] SCE 2026-2028 Base WMP, R2, page 360.

[371] SCE 2026-2028 Base WMP, R2, page 360.

SCE plans to add to the scope of existing collaboration efforts to include cross-agency workload forecasting and improving communications around future projects.[372] These partnership activities, along with the expanded scope, represent SCE's commitment to continued progress and forward-looking growth.

9.2.8 Activities Based on Weather Conditions

In its 2026-2028 Base WMP, SCE described several components of its plans for activities based on weather conditions. These components include new risk modeling parameters, work activity adjustments due to weather conditions or PSPS events, and ceasing the use of spark-producing equipment in its HFRAs. As such, SCE demonstrates continued progress towards establishing effective plans to reduce wildfire risk across its service territory.

SCE demonstrated continued progress by updating its IWMS modeling framework to adjust how SCE identifies AOCs in its HFRA.[373] Specifically, SCE modified its AOC risk criteria within its IWMS to help "inform decision-making processes" as riskier weather approaches.[374] The expanded AOC criteria includes fuels modeling for new locations, a Building Loss Factor (BLF) parameter, and an adjustment for fuels near the Wildland Urban Interface.[375] This model update may reduce wildfire risk by allowing SCE to more accurately identify locations with higher risk as fire weather approaches and then mitigate that risk.

Additionally, SCE demonstrated programmatic effectiveness by describing its plans to modify work activities during PSPS events or inclement weather. For Public Safety Power Shutoff (PSPS) events, SCE stated that "[d]uring PSPS events, SCE performs pre-patrols, live field observations, restoration patrols and post-patrols."[376] Additionally, throughout PSPS events "…Vegetation Management crews are assigned to mitigate any vegetation-related ignition risks identified during PSPS pre- or post-patrols."[377] SCE also stated that it plans to adjust work activities in the areas with the highest risk during red flag warning conditions, which may reduce wildfire risk.[378] SCE's deployment of personnel before, during, and after PSPS events, coupled with its plans to adjust activities during red flag warnings, is an effective wildfire mitigation strategy that is likely to lower the risk of vegetation impacting infrastructure once risky weather conditions are present.

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[372] SCE 2026-2028 Base WMP, R2, page 360.

[373] SCE 2026-2028 Base WMP, R2, page 363.

[374] SCE 2026-2028 Base WMP, R2, page 363.

[375] SCE 2026-2028 Base WMP, R2, page 363.

[376] SCE 2026-2028 Base WMP, R2, page 362.

[377] SCE 2026-2028 Base WMP, R2, page 362.

[378] SCE 2026-2028 Base WMP, R2, page 362.

Finally, SCE stated that it is taking steps to reduce risks from sparking equipment in HFRAs. Specifically, SCE stated that it "…will pause non-emergency work in HFRA (e.g., use of chainsaws) that has the potential to cause sparks, and instead, work in non-HFRA areas."[379] Limiting sparking equipment use will likely reduce wildfire risk because fewer sparks equate to fewer opportunities for ignition from SCE's vegetation management operational activities.

9.2.9 Post-Fire Service Restoration

SCE considers fire to be a type of "emergency storm event."[380] SCE stated in its 2026-2028 Base WMP that in 2024 it developed a Vegetation Management (VM) Operations Storm Manual and built a "Storm App" that tracks restoration activities.[381] These updates demonstrate continued progress as they may improve the consistency of SCE's post-fire response, which likely will reduce the risk that dead and dying fire-damaged vegetation poses to people and property.

SCE's VM Operations Storm Manual "provides guidance for both SCE VM and contractors on storm processes and practices that will enable efficient mobilization and operation of a VM storm team."[382] The manual also includes a storm matrix table that guides district managers in classifying incident intensity levels. This provides vegetation management teams a "reference point" to understand the severity of the incident, which should allow SCE to better target and adapt to granular field conditions.[383]

Among other topics, the manual also includes guidance on roles and responsibilities, reporting and invoicing, work prioritization, and restoration coordination between teams.[384] This comprehensive guidance should allow SCE to train its personnel to respond to most post-fire circumstances. SCE stated in its 2026-2028 Base WMP that it plans to provide its employees with storm manual training in 2025. This demonstrates forward-looking growth as its employees can use lessons learned from the training to better address risky vegetation post-fire during the 2026-2028 Base WMP cycle.[385]

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[379] SCE 2026-2028 Base WMP, R2, page 362.

[380] SCE, Vegetation Management Operations Storm Manual, page 3.

[381] SCE 2026-2028 Base WMP, R2, page 364.; SCE, Vegetation Management Operations Storm Manual.

[382] SCE, Vegetation Management Operations Storm Manual, page 3.

[383] SCE, Vegetation Management Operations Storm Manual, page 4.

[384] SCE, Vegetation Management Operations Storm Manual.

[385] SCE 2026-2028 Base WMP, R2, page 364.

In 2024, SCE added a Storm App to Fulcrum, SCE's IVM and emergency response management software, and plans to move emergency response work record keeping to Arbora.[386, 387] Abora is the vegetation management work management system platform that will house all SCE VM programs.[388] The Storm App assists SCE's vegetation management team in "track[ing] emergent work" and includes "several robust storm dashboards to track potential vegetation mitigation work impacted by weather conditions."[389] SCE also "aims to transition record keeping" for "emergency response VM activities" to Arbora by 2028.[390] Consolidating the Storm App into Arbora may simplify SCE's record keeping by reducing the number of applications SCE employees must navigate. A more streamlined process may also promote safety by reducing the opportunities for human error, and thus better ensuring that SCE mitigates risky vegetation before restoring power. Together, SCE's storm manual and Storm App demonstrate continued progress because they will likely create a consistent, standardized workflow that may improve post-fire response, coordination, and awareness among vegetation management teams.

SCE also demonstrated effectiveness by deploying International Society of Arboriculture Certified Arborist pre-inspectors post-fire, coordinating with other agencies, and prioritizing HFRA for post-fire vegetation management.[391] As such, SCE will likely decrease worker and public safety risks by ensuring that SCE addresses dead and dying fire-damaged vegetation before re-energizing its fire-impacted circuits.

9.2.10 Quality Assurance and Quality Control

SCE includes two established quality management activities within its Quality Assurance and Quality Control (QA/QC) program: Quality Assurance Reviews (QA), and Quality Control Inspections (QC).[392] Its quality management approach will likely reduce the time that non-compliant trees remain unmitigated, provide rapid quality feedback to contractors, and direct procedural improvements when systemic issues become apparent.[393]

Through SCE's QA activity, SCE will conduct an annual internal quality review to assess design and performance of established utility vegetation management policies and procedures and identify continuous improvement opportunities.[367] SCE's QA is likely to reduce wildfire risk by

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[386] SCE 2026-2028 Base WMP, R2, page 364.

[387] SCE 2026-2028 Base WMP, R2, page 364.

[388] SCE 2023-2025 Base WMP, R3.1, page 426-428; SCE 2026-2028 Base WMP, R2, page 478.

[389] SCE 2026-2028 Base WMP, R2, page 364.

[390] SCE 2026-2028 Base WMP, R2, pages 478 and 480.

[391] SCE 2026-2028 Base WMP, R2, pages 363-364.

[392] UVM-07: Post Work Verification and UVM Program Oversight, page 9.

[393] UVM-07: Post Work Verification and UVM Program Oversight, page 9.

addressing the root cause of systemic issues, which may lead to fewer vegetation conflicts with electrical infrastructure.

Judgmental Sampling in Quality Control

In its QC activities, SCE demonstrates continued progress by establishing 100 percent pass rate targets for all audits.[394] This high bar will likely reduce wildfire risk as SCE is committing to ensuring that pre-inspectors and tree crews address all risky vegetation before it falls or grows into energized infrastructure.

However, SCE's QC audits of vegetation clearances around distribution and transmission infrastructure include judgmental sampling of circuit miles.[395] Judgmental sampling is a non-random sampling technique that relies on expert opinion to select audit locations which may introduce bias.[396] As such, judgmental sampling may render the sample non-representative of the population. SCE states that non-random sampling is necessary to ensure it "uniformly" audits work from its eight pre-inspection and eight tree trimming contractors.[397] SCE also suggests that judgmental sampling allows it to review additional work of underperforming contractors.[398]

SCE's non-random, judgmental sampling strategy does not demonstrate effectiveness and may increase wildfire risk. A judgmental sample generates a pass rate that arises from the subjective choice of locations to audit by the person(s) performing the sampling. For instance, the sample may exclude difficult-to-access circuit miles or include a non-representative composition of vetted and unvetted contractors. The result is a non-statistically-valid estimate of the population pass rate and could lead to a specious conclusion that SCE's vegetation management activities more effectively achieve regulatory compliance and WMP commitments than they do. SCE's decision to not accurately estimate the true population pass rate may increase wildfire risk from undetected vegetation growing or falling into energized infrastructure.

To improve its sampling and the resulting pass rate estimate, SCE should consider collecting a stratified random sample after it prioritizes circuit miles to audit using its Tree Risk Index (TRI),[399] stratifying based on contractor, location, or some other grouping, and randomly

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[394] SCE 2026-2028 Base WMP, R2, pages 367.

[395] SCE 2026-2028 Base WMP, R2, page 368-369.

[396] SCE 2026-2028 Base WMP, R2, page 368.

[397] Response to Data Request 4, Question 3.

[398] Response to Data Request 4, Question 3.

[399] SCE 2026-2028 Base WMP, R2, page 368.

sampling from its B, C, and D TRI locations.[400] SCE should consider collecting a stratified random sample for both its distribution and transmission QC audits. This sampling strategy eliminates bias by ensuring that SCE proportionally audits all vegetation management contractors and areas presenting different degrees of risk. Employing a stratified random sample would likely lower wildfire risk by accurately estimating the true population pass rate and increasing the certainty that SCE identifies the need for remediating risky vegetation.

Despite SCE's use of non-random sampling, SCE's suite of QA and QC activities ultimately will likely reduce wildfire risk by identifying non-compliant vegetation before it contacts high-voltage infrastructure and uncovering the need for procedural modifications.

9.2.11 Work Orders

SCE demonstrates progress by both reducing the number of vegetation management work orders that become past due and shortening the amount of time work orders remain past due. SCE should continue to reduce its work order backlog to minimize wildfire risk in its service territory.

SCE has a lower number of past due work orders as compared to its last Base WMP. In its 2023-2025 Base WMP, SCE stated that as of December 31, 2022, it had 17,924 past due work orders, and that 14,919 of the 17,924 work orders (83 percent) were over 181 days beyond their due date.[401] As of March 7, 2025, SCE had a total of 14,136 vegetation management past due work orders, with 158 of the 14,136 (1.1 percent) past due work orders over 181 days past due.[402] Thus, SCE had 3,788 fewer past due work orders in 2025 than it had in 2022. SCE also had 14,761 fewer work orders past due beyond 181 days in 2025 compared to 2022. Most (96 percent) of the 14,136 past due work orders in 2025 were between just 0 and 30 days past due.[403] Therefore, relative to its 2023-2025 Base WMP, SCE improved its ability to resolve past due work orders. SCE's more prompt remediation of past due work orders will likely lower wildfire risk because risky vegetation will threaten energized infrastructure for less time.

Despite SCE's progress reported in its 2026-2028 Base WMP, SCE still allowed 14,136 work orders to become past due as of March 7, 2025. Each past due work order presents a risk of igniting the next catastrophic wildfire.

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[400] Stratified random sampling is a technique whereby a researcher identifies distinct groups (strata) within a population that have unique attributes (e.g., a specific vegetation management contractor). The researcher then randomly samples from each group so that the final sample has the same proportion of individuals within each group as the population. This ensures that one group does not contribute more to the sample statistic (e.g., pass rate) than it would to the population statistic.

[401] SCE 2023-2025 Base WMP, R3.1, page 436.

[402] SCE 2026-2028 Base WMP, R2, page 375.

[403] SCE 2026-2028 Base WMP, R2, page 375.

SCE cites environmental permitting, access issues, and customer refusals as "constraints" to timely completing work and resulting in the backlog.[404] To remedy these "constraints," SCE states it is working with various State and Federal agencies to streamline environmental reviews.[405] Energy Safety expects SCE to further advance its ability to rapidly resolve these "constraints" and compete work orders within the time period it specifics in its 2026-2028 Base WMP.

9.2.12 Workforce Planning

SCE stated in its 2026-2028 Base WMP that it made several changes to its Workforce Planning objectives related to academic collaborations and its minimum workforce qualifications. While its continued academic partnerships demonstrate forward growth, SCE's reduction for some of its minimum workforce qualifications does not demonstrate forward-looking growth.

In terms of demonstrating continued progress, SCE set a target to promote personnel training through external education partnerships. Specifically, SCE set a qualitative target to both measure its progress and "continue partnership[s] with educational institutes for SCE personnel to participate in professional seminars and webinars."[406] SCE also helps develop college-level UVM course material for San Bernadino Community College.[407] These partnerships with educational institutions may decrease wildfire risk by promoting obtainment of advanced vegetation management knowledge in SCE's current and future workforce.

In contrast, SCE reduced some of its minimum workforce qualifications, which does not demonstrate forward-looking growth.[408] Specifically, compared to its 2023-2025 Base WMP, SCE lowered the combined education and experience requirements for pre-inspectors. Moreover, SCE no longer requires pre-inspectors to have the ability to obtain International Society of Arboriculture (ISA) arborist certification within 12 months of being hired.[409] Similarly, SCE no longer requires lead pre-inspectors to be ISA-Certified Arborists.[410] And lastly, SCE no longer expects QC Inspectors to obtain ISA arborist certification within six months of ISA certification eligibility.[411]

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[404] SCE 2026-2028 Base WMP, R2, page 372.

[405] SCE 2026-2028 Base WMP, R2, page 372.

[406] SCE 2026-2028 Base WMP, R2, page 333.

[407] SCE 2026-2028 Base WMP, R2, page 359.

[408] SCE 2026-2028 Base WMP, R2, page 378.; SCE 2023-2025 Base WMP, R3.1, pages 440-441.

[409] SCE 2026-2028 Base WMP, R2, page 378.; SCE 2023-2025 Base WMP, R3.1, page 440.

[410] SCE 2026-2028 Base WMP, R2, page 378.; SCE 2023-2025 Base WMP, R3.1, page 440.

[411] SCE 2026-2028 Base WMP, R2, page 378.; SCE 2023-2025 Base WMP, R3.1, page 441.

These lower minimum qualifications may increase wildfire risk by raising the likelihood that grow-in and fall-in trees remain in the service territory due to missed trees at the time of pre-inspection and QC. SCE should consider re-instating the ISA arborist certification minimum qualification requirements for Pre-Inspectors, Lead Pre-Inspectors, and QC Inspectors as they existed in its 2023-2025 Base WMP.[412] This would achieve better forward-looking growth for its long-term wildfire mitigation strategy by ensuring its current and future workforce possess the knowledge and experience necessary to obtain ISA arborist certification.

9.3 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to vegetation management and inspections where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

9.3.1 SCE-23B-16. Implementation of SCE's Consolidated Inspection Strategy, Use of its Tree Risk Index, and its Satellite-Based Inspection Pilot

For this area for continued improvement, Energy Safety required SCE to report on progress, outcomes, and lessons learned related to the development, implementation, and use of its Consolidated Inspection Strategy, Tree Risk Index, and satellite-based inspection pilot in its 2026-2028 Base WMP.[413]

9.3.1.1 SCE-23B-16: SCE Response Summary

In its 2026-2028 Base WMP, SCE provided all the information required in this area for continued improvement.

For its Consolidated Inspection Strategy, SCE reported that it consolidated Routine Line Clearing, Hazard Tree Management Program, and Dead & Dying Tree Removal inspections into a single inspection activity in 2024.[414] SCE stated that consolidation improved coordination with environmental review, customers, contractor management, work scheduling, and the bidding process.[415] SCE also reported that some contractors had

[412] SCE 2023-2025 Base WMP, R3.1, pages 440-441.

[413] Decision on SCE 2025 WMP Update, pages 55 and 56.

[414] SCE 2026-2028 Base WMP, R2, page 339.

[415] SCE 2026-2028 Base WMP, R2, page 595.

difficulties hiring enough qualified arborists to complete the new, more technically challenging inspections as a lesson learned.[416]

For its Tree Risk Index (TRI), SCE reported that it currently uses TRI methodology for tree assessment in distribution vegetation management activities.[417] SCE is continuously considering TRI enhancements (e.g., updating its model to a new third-party model Q3 2024).[418] SCE also reported that it currently uses TRI scores to rate the overall tree-related hazard level of each circuit.[419] SCE targets the highest-hazard circuits for annual Hazard Tree Management Inspections, while lower ranked circuits receive inspections every three years.[420]

As another lesson learned, SCE observed that risk model updates have resulted in increased Severe Risk Areas, expanding the scope of the program.[421] SCE is considering lumping "B" through "D" categories together in the Tree Risk Index and executing one third of the work each year where previously SCE did the work for a single category each year on a rotating three-year cycle.[422]

Finally, SCE reported that it launched a satellite-based inspection pilot in 2023 with a single vendor.[423] SCE reported that it continued the pilot in 2024 and contacted additional vendors to explore additional satellite capabilities.[424] SCE reported that its initial pilot results show satellite inspections are particularly useful for areas with lower vegetation density.[425] Through this pilot, SCE reported that it found that satellite inspections are highly accurate but still depend on in-person field validation.[426] As a lesson learned, SCE reported that it found that satellite inspection outputs required tweaking for accuracy and compatibility with SCE's systems.[427] SCE found that satellite data is less effective in winter when trees have dropped their leaves.[428] Accordingly, SCE adjusted data collection timing to ensure trees had leaves.[429]

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[416] SCE 2026-2028 Base WMP, R2, page 595.

[417] SCE 2026-2028 Base WMP, R2, page 596.

[418] SCE 2026-2028 Base WMP, R2, page 596.

[419] SCE 2026-2028 Base WMP, R2, page 596.

[420] SCE 2026-2028 Base WMP, R2, page 596.

[421] SCE 2026-2028 Base WMP, R2, page 596.

[422] SCE 2026-2028 Base WMP, R2, page 596.

[423] SCE 2026-2028 Base WMP, R2, page 596.

[424] SCE 2026-2028 Base WMP, R2, page 596.

[425] SCE 2026-2028 Base WMP, R2, page 597.

[426] SCE 2026-2028 Base WMP, R2, page 597.

[427] SCE 2026-2028 Base WMP, R2, page 597.

[428] SCE 2026-2028 Base WMP, R2, page 597.

[429] SCE 2026-2028 Base WMP, R2, page 597.

SCE reported that the pilot found that satellite inspections are best suited for low-risk areas with low tree and vegetation density.[430]

9.3.1.2 SCE-23B-16: Energy Safety Evaluation

SCE provided all the information required in this area for continued improvement, including progress, outcomes, and lessons learned for all variables listed. As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement.

9.3.2 SCE-23B-17. Continuation of Effectiveness of Enhanced Clearances Joint Study

For this area for continued improvement, Energy Safety required SCE to continue its joint study on the Effectiveness of Enhanced Clearances with SDG&E and PG&E, and report on its plan for implementing any recommendations from the study in its 2026-2028 Base WMP.[431] These recommendations must include discussion of:[432]

- The effectiveness of enhanced clearances in reducing tree-caused outages and ignitions,
- Joint recommendations for updates and changes to utility vegetation management operations and best management practices for wildfire safety based on this study, including any updates based on clearance distances,
- Assessing the effectiveness of enhanced clearances combined with other mitigations, particularly with grid hardening equipment such as covered conductor and PEDS equipment, and
- A plan for implementing recommendations, including timelines, milestones, or a discussion of why the electrical corporation is not implementing the recommendation.

9.3.2.1 SCE-23B-17: SCE Response Summary

In its 2026-2028 Base WMP, SCE attached the white paper of the joint study on the effectiveness of enhanced clearances.[433] SCE also included an implementation plan based on the third-party recommendations and results from the white paper.[434]

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[430] SCE 2026-2028 Base WMP, R2, page 597.

[431] Decision on SCE 2025 WMP Update, pages 56 and 57.

[432] Decision on SCE 2025 WMP Update, pages 56 and 57.

[433] SCE 2026-2028 Base WMP, R2, pages 691-730.

[434] SCE 2026-2028 Base WMP, R2, pages 602-604.

9.3.2.2 SCE-23B-17: Energy Safety Evaluation

SCE only partially satisfied the requirements of this area for continued improvement.

SCE's attached white paper provides the detail needed to determine the large electrical corporations' joint evaluation of the effectiveness of enhanced clearances in reducing tree-caused outages and ignitions.[435] The recommendations for updates and changes to utility vegetation management operations and best management practices for wildfire safety enclosed in the white paper are supported by the data and analysis of the joint study.[436] SCE's plan for implementing results and recommendations from the third-party contractor analysis and the white paper include trackable milestones and timelines.[437]

SCE-23B-17 required SCE to "Assess the effectiveness of enhanced clearances combined with other mitigations including, but not limited to, covered conductor and protective equipment and device settings (e.g., EPSS, FastCurve).[438] However, SCE stated that it was unable to analyze the effectiveness of enhanced clearances combined with other mitigations due to an insufficient amount of data.[439] Covered conductor is not currently deployed widely enough and for a long enough time to provide sufficient data for analysis.[440] SCE widely deployed Fast Curve settings before implementing enhanced clearances, making an analysis of the combined effectiveness challenging but possible with additional data.[441] As such, SCE must continue to improve in this area for its next Base WMP. Energy Safety discusses the requirements for studying enhanced clearances and gauging the effectiveness of enhanced clearances in areas for continued improvement SCE-26B-18: Implementation of Enhanced Clearances Joint Study Recommendation, and SCE-26B-19: Quantifying Enhanced Clearances Effectiveness.

9.4 Revision Notice Critical Issues

Energy Safety issued SCE a Revision Notice for its 2026-2028 Base WMP. This section evaluates SCE's response to that Revision Notice as it relates to vegetation management and inspections.[442]

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[435] SCE 2026-2028 Base WMP, R2, Appendix F4, pages 691-730.

[436] SCE 2026-2028 Base WMP, R2, pages 602-604.

[437] SCE 2026-2028 Base WMP, R2, pages 602-604.

[438] SCE 2026-2028 Base WMP, R2, page 598.

[439] SCE 2026-2028 Base WMP, R2, pages 600-601, 718.

[440] SCE 2026-2028 Base WMP, R2, pages 600-601, 718.

[441] SCE 2026-2028 Base WMP, R2, pages 600-601.

[442] SCE Revision Notice Response, pages 21 –27.

9.4.1 RN-SCE-26-04. SCE's Vegetation Management Inspection Targets and the Scope of Inspections Do Not Align.

Energy Safety required SCE to revise its VM-7 and VM-8 targets in *Table 9-2: SCE Vegetation Inspections and Pole-Clearing Targets by Year* of its 2026-2028 Base WMP to cover 100 percent of SCE's HFTD and HFRA, to accurately reflect the described scope of these inspection activities in *Table 9-3: Vegetation Management Inspection Frequency, Method, and Criteria*.[443]

9.4.1.1 RN-SCE-26-04: SCE Response Summary

In its Revision Notice Response, SCE provided an updated *Table 9-2: SCE Vegetation Inspections and Pole-Clearing Targets by Year* with adjusted quantitative inspection targets as directed in the Revision Notice.[444]

9.4.1.2 RN-SCE-26-04: Energy Safety Evaluation

While SCE provided the updated table as required in the Revision Notice, SCE also added equivocating language associated with the updated targets in the table. Specifically, SCE added equivocating language in the inspection program narrative stating that the completion of SCE's target may be constrained by environmental conditions or risk prioritization.[445] However, SCE's response to Data Request 18, Question 1, explained that these constraints may impact timing of the work, but not completion of the work, and includes commitments to competing all scheduled inspections.[446] With this clarification, Energy Safety finds that SCE has resolved this critical issue. However, Energy Safety will require SCE to update its 2026-2028 Base WMP per its data request response in a separate request for errata.

9.4.2 RN-SCE-26-05. SCE's Wood and Slash Management Target Is Not Specific or Measurable.

Energy Safety required SCE to revise its 2026-2028 Base WMP to include a qualitative target for its wood and slash management program that conforms to the requirements of the WMP Guidelines[447] and ensures that the contract terms for wood and slash management are performed, documented, and enforced.[448]

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[443] SCE 2026-2028 Base WMP, R2, pages 335-336.

[444] SCE Revision Notice, pages 9-10.

[445] SCE 2026-2028 Base WMP, R2, page 342.

[446] Response to Data Request 18.

[447] WMP Guidelines, page A-15.

[448] SCE Revision Notice, page 11.

9.4.2.1 RN-SCE-26-05: SCE Response Summary

In its Revision Notice Response, SCE provided a revised Wood and Slash Contractor Management (VM-11) target to include specific and measurable actions.[449] These actions include implementing mandatory fields in its work management system to document the removal method for all wood and slash (debris), mandatory QC fields for sample-based verification, and developing reporting capabilities to document the completion of wood and slash management activities.[450]

9.4.2.2 RN-SCE-26-05: Energy Safety Evaluation

SCE's revised actions are specific and measurable and meet the requirements of the Revision Notice. These revised actions will enable SCE to monitor contractor compliance with its wood and slash management contract terms. Therefore, Energy Safety finds that SCE has resolved this critical issue.

9.4.3 RN-SCE-26-06. SCE Dilutes its Commitments to its Quantitative Pole Clearing Targets with Qualifying Language in the Footnotes.

Energy Safety required SCE to revise its 2026-2028 Base WMP to remove footnotes 4 and 5 of *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year,* and to stop equating attempts to inspect with completed inspections when establishing its targets.[451]

9.4.3.1 RN-SCE-26-06: SCE Response Summary

In its Revision Notice Response, SCE removed footnotes 4 and 5 in Revision 1 of its 2026–2028 Base WMP and revised the projected volume of work under each target.[452] In its Revision Notice Response, SCE stated that it previously counted inspection attempts that could not be completed (e.g., due to access issues) toward its targets.[453] SCE stated that in the future, SCE will set VM-2.1 and VM-2.2 targets to exclude structures it cannot inspect due to access, permitting, or environmental constraints.[454]

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[449] SCE 2026-2028 Base WMP, R2, page 333.

[450] SCE Revision Notice Response page 22.; SCE 2026-2028 Base WMP, R2, page 333.

[451] SCE Revision Notice, page 11.

[452] SCE 2026-2028 Base WMP, R1, page 335.

[453] SCE Revision Notice Response, page 23.

[454] SCE Revision Notice Response, page 23.

9.4.3.2 RN-SCE-26-06: Energy Safety Evaluation

SCE resolved this issue by removing footnotes 4 and 5 and revising its projected annual pole clearing work to exclude attempted but incomplete activities. Due to these revisions, SCE improved the specificity of these targets. The updated targets now more accurately reflect work that supports overall risk reduction. Therefore, Energy Safety finds that SCE has resolved this critical issue.

9.4.4 RN-SCE-26-07. SCE Also Dilutes its Commitment to its Quantitative Pole Clearing Targets by Using Equivocating Language in Table 9-2 via Cross-Referencing to Another WMP Section.

Energy Safety required SCE to revise its 2026-2028 Base WMP to remove footnote 1 and its associated language from *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year.* Energy Safety also required SCE to remove all equivocating language from the narrative in Section 9.12.1 that dilutes its commitments, including but not limited to references to targets as "internal," "aspirational," and commitments that SCE will "endeavor" to achieve.[455]

9.4.4.1 RN-SCE-26-07: SCE Response Summary

In its Revision Notice Response, SCE removed footnote 1 from *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year*, and removed equivocating language identified by this critical issue.[456]

9.4.4.2 RN-SCE-26-07: Energy Safety Evaluation

SCE's removal of footnote 1 from *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year*, along with related qualifying language from Section 9.12.1, increases the specificity of the targets and establishes firm commitments. Energy Safety finds that SCE has resolved this critical issue.

9.4.5 RN-SCE-26-08. SCE Failed to Disclose Two Remote Sensing Pilot Programs in its 2026-2028 Base WMP.

Energy Safety required SCE to revise its 2026-2028 Base WMP to provide details on and discussion of its remote sensing pilot programs and must include:[457]

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[455] SCE Revision Notice, pages 12-13.

[456] SCE 2026-2028 Base WMP, R1, pages 335 and 371-372

[457] Revision Notice for the SCE 2026-2028 Base WMP, pages 13-14.

- All the information about SCE's remote sensing pilots disclosed in SCE's response to Data Request 12, Question 1.[458]
- A description of which remote sensing technologies SCE is piloting and which remote sensing technologies SCE is considering for future use.
- A description of how SCE is evaluating and will continually evaluate remote sensing for use in its inspections, including a process, criteria, and metrics for determining the success and failure of the pilot and the ongoing effectiveness of remote sensing inspections.

9.4.5.1 RN-SCE-26-08: SCE Response Summary

In its Revision Notice Response, SCE provided all information about remote sensing pilots from its response to Data Request 12.[459] SCE also added a description of the remote sensing technologies it is piloting and considering for future use.[460] Finally, SCE added a description of its initial and continuing remote sensing evaluation processes, and included success and failure criteria.[461]

9.4.5.2 RN-SCE-26-08: Energy Safety Evaluation

Given that SCE provided all the information required by the Revision Notice, Energy Safety finds that SCE has resolved this critical issue.

9.4.6 RN-SCE-26-09. SCE's Transition from Ground Inspections to Remote Sensing Lacks Explanation.

Energy Safety required SCE to revise its 2026-2028 Base WMP to provide details on and discussion of its plans to transition from ground patrol inspections to remote-sensing technologies, including:

- A description of how SCE plans to phase into remote sensing from ground-based patrol inspections for years 2026, 2027, and 2028.
    - A timeline, including measurable and auditable milestones, for the transition.
        - The timeline and milestones must be included in *Table 9-1: SCE Vegetation Management Targets by Year (Non-inspection Targets)* as a qualitative target.

[458] Response to Data Request 12.

[459] SCE 2026-2028 Base WMP, R2, pages 339-340.

[460] SCE 2026-2028 Base WMP, R2, pages 339-340.

[461] SCE 2026-2028 Base WMP, R2, pages 339-340.

- A description of how and when SCE will perform ground-based patrol inspections in areas that have inconclusive remote sensing results or were not captured by remote sensing.
- Qualitative targets for new mitigation activities VM-7 and VM-8 in *Table 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year* and correlating narrative consistent with SCE's response to Data Request 12, Question 1.[462]

9.4.6.1 RN-SCE-26-09: SCE Response Summary

In its Revision Notice Response, SCE provided a description and timeline with milestones, along with qualitative targets, for its transition to remote sensing inspections.[463] SCE also provided a description of how and when it will use ground-based patrol inspections for areas with inconclusive remote sensing results.[464] Finally, SCE provided quantitative targets for VM-7 and VM-8 and adjusted the narrative such that it is consistent with SCE's response to Data Request 12, Question 1.[465]

9.4.6.2 RN-SCE-26-09: Energy Safety Evaluation

SCE's updated descriptions, targets, and the introduction of a timeline with milestones for remote sensing, all meet the requirements of the Revision Notice. Therefore, Energy Safety finds that SCE has resolved this critical issue.

9.5 Areas for Continued Improvement for Future WMP Submissions

As discussed above, Energy Safety has identified areas pertaining to vegetation management and inspections where the electrical corporation must demonstrate improvement in a future, specified WMP submission. This section sets forth the requirements for improvement.

9.5.1 SCE-26B-18. Implementation of Enhanced Clearances Joint Study Recommendation

Summary: The results of the Effectiveness of Enhanced Clearances Joint Study include a list of recommendations for SCE to improve its data collection and vegetation management practices.

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[462] Response to Data Request 12.

[463] SCE 2026-2028 Base WMP, R2, pages 334 and 339-340.

[464] SCE 2026-2028 Base WMP, R2, pages 339-340.

[465] SCE 2026-2028 Base WMP, R2, pages 334 and 339-340.

Requirements: In its next Base WMP, for each recommendation in *Table SCE D-03: Plan for Implementation of Recommendations from Third-Party Study and White Paper*,[466] SCE must demonstrate that it has implemented the recommendations by providing, at a minimum, documentation such as updated procedures documents, data collection forms, training materials, or other relevant documentation. SCE must be ready to provide additional documentation upon request by Energy Safety.

Discussed in: Section 9.3.2.2 SCE-23B-17: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

9.5.2 SCE-26B-19. Quantifying Enhanced Clearances Effectiveness

Summary: In its response to SCE-23B-17, SCE stated that the data used in the Effectiveness of Enhanced Clearances Joint Study did not allow for analysis of the enhanced clearances combined with additional grid hardening measures.

Requirements: In its next Base WMP, SCE must report on its continued evaluation of the effectiveness of enhanced clearances. This report must include continued analysis for the following:

- Effectiveness of enhanced clearances on contact from vegetation ignition likelihood.
- Effectiveness of enhanced clearances on PEDS outage likelihood.
- Effectiveness of enhanced clearances on PSPS likelihood.
- Effectiveness of non-enhanced clearances on PEDS outage likelihood.
- Effectiveness of non-enhanced clearances on PSPS likelihood.
- The effectiveness of enhanced clearances in combination with other mitigations including, but not limited to: overhead system hardening (covered conductor and traditional hardening), pole and hardware replacement, situational awareness mitigations, and equipment settings to reduce wildfire risk (as defined in Section 8.7.1 of the WMP Guidelines).[467] This evaluation must include a comparison of cost-benefit ratios for each combination and how the combinations impact effectiveness for contact from vegetation ignition likelihood, PEDS outage likelihood, and PSPS likelihood.
- Barriers to making these calculations, limitations of these calculations, and assumptions required to make these calculations. This must also include,

[466] SCE 2026-2028 Base WMP, R2, pages 602-604.

[467] WMP Guidelines, pages 99-101.

- A plan to overcome the described barriers, limitations, and assumptions for future iterations of these calculations.

Discussed in: Section 9.3.2.2 SCE-23B-17: Energy Safety Evaluation

Appendix C provides a consolidated list of areas for continued improvement and requirements.

10. Situational Awareness and Forecasting

Chapter III, Section 10 of the WMP Guidelines requires the electrical corporation to include plans for situational awareness in its WMP.[468, 469] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

10.1 Summary of Anticipated Risk Reduction

In its 2026-2028 Base WMP, SCE included plans to install various devices to increase situational awareness and reduce wildfire risk.

For example, SCE plans to install 200 Early Fault Detection (EFD) devices per year starting in 2026 and ending in 2028.[470] This would bring the total amount of EFD devices in its service territory to 600.[471] EFD technology is an important part of situational awareness and risk reduction because it detects "high frequency radio emissions that can occur from arcing or partial discharge conditions on the electric system."[472] This detection is important because partial discharges and arcing are examples of electrical interruptions that can cause wildfires.

Once installed, each pair of EFD sensors can bi-angulate wildfire detection down to a specific location.[473] This specific targeting ability allows for a smaller inspection area and more rapid electrical restoration process based on the type of electrical fault identified. This EFD sensor installation increase will reduce SCE's wildfire risk by 0.07 percent in 2026 to 0.09 percent by 2028.[474]

10.2 Discussion

This section discusses Energy Safety's evaluation of the situational awareness section of the SCE 2026-2028 Base WMP.

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[468] Pub. Util. Code §§ 8386(c)(2)-(5).

[469] WMP Guidelines, pages 125-139.

[470] Table 10-1: Situational Awareness Targets by Year, SCE 2026-2028 Base WMP, R2, page 382.

[471] Table 10-1: Situational Awareness Targets by Year, SCE 2026-2028 Base WMP, R2, page 382.

[472] SCE 2026-2028 Base WMP, R2, page 395.

[473] SCE 2026-2028 Base WMP, R2, page 395.

[474] Table 10-1: Situational Awareness Targets by Year, SCE 2026-2028 Base WMP, R2, page 382.

10.2.1 Environmental Monitoring Systems

In its 2026-2028 Base WMP, SCE reported on various types of environmental monitoring systems it owns and operates, including weather stations, fuel moisture sampling, the use of field observations, and live data collection.

SCE owns and operates 1,787 weather stations across their service territory, and 1,450 of those stations can produce readings every 30 seconds.[475, 476] This allows for improved weather forecasts and models through increased data collection. This is an improvement over prior years, when SCE's weather stations could only provide data on 10-minute intervals, lagging behind peer utilities PG&E and SDG&E, who could read data every 30 seconds.[477] At that time Energy Safety required SCE to make improvements.[478]

SCE also collects fuel moisture samples from 16 different areas across SCE's HFRA every 2 weeks throughout the year.[479] This fuel moisture data is used to help assess daily fire potential within the HFRA and to adjust Fire Potential Index (FPI) calculations during PSPS events if necessary.[480] In its 2026-2028 Base WMP, SCE reported that it expanded the fuel moisture sampling program to three additional sites on Catalina Island to test the correlation relative to the mainland values, which should lead to a more comprehensive data set.[481]

Finally, SCE stated that it will continue to train and deploy personnel to perform field observations and gather live weather data in critical areas before, during, and after PSPS events.[482] This information is used to supplement the fixed-weather station data and to monitor for any additional operational hazards.[483]

10.2.2 Grid Monitoring Systems

In its 2026-2028 Base WMP, SCE reported deploying many different types of grid monitoring systems that should lower SCE's wildfire risk. For example, in *Table 10-3: Grid Operation Monitoring Systems*, SCE's grid monitoring systems included Radio Frequency Monitors (e.g., EFD); Protective Relays (e.g., TOPD, Hi-Z, DOPD, and Fast Curve); Smart Meters (e.g., MADEC,

[475] Response to Data Request 3.

[476] SCE 2026-2028 Base WMP, R2, page 386.

[477] Decision on SCE 2022 WMP Update, page 45.

[478] Decision on SCE 2022 WMP Update, page 118.

[479] SCE 2026-2028 Base WMP, R2, page 389.

[480] SCE 2026-2028 Base WMP, R2, page 389.

[481] SCE 2026-2028 Base WMP, R2, page 389.

[482] SCE 2026-2028 Base WMP, R2, page 390.

[483] SCE 2026-2028 Base WMP, R2, page 390.

Transformer Early Damage Detection); Fault Recorders (e.g., Digital Fault Recorder); and REFCL.[484] SCE included the purpose of each device and the frequency at which the device operates, both details which increase SCE's transparency and accountability to the public.

For all EFD sensors, SCE disclosed that it placed EFD sensors on every three circuit miles on distribution circuits and every five circuit miles on transmission circuits to provide early detection of an incipient failure, such as severed strands on a conductor, vegetation contact, or deterioration of insulating material.[485] Deployment of EFD sensors allows for greater circuit monitoring and assists with finding fault locations for quicker electric restoration when the system experiences faults.

Finally, SCE also reported that it will continue to enable Fast Curve Protective Relays during fire weather threats.[486] This allows SCE to continuously monitor the line current in circuit sections, and to de-energize the station circuit breakers or remote automatic reclosers in the HFRA to rapidly reduce the fault energy and wildfire risk.[487]

10.2.3 Ignition Detection Systems

In its 2026-2028 Base WMP, SCE reported utilizing and sponsoring high-definition (HD) cameras and utilizing governmental satellite data to deliver transparent ignition detection data to its employees and the public.

SCE utilizes and sponsors 200 Alert California HD Cameras to quickly provide accurate wildfire detection, increased situational awareness, and possible direction of wildfire growth for asset protection.[488] As a sponsor of multiple alert cameras, SCE is able to adjust the view shed of the cameras, and receive real-time alerts when the camera's AI technology identifies an emerging fire location.[489] This real-time monitoring and more precise detection ability minimizes emerging wildfire risk because it allows SCE to specifically target wildfire response to more exact locations.

SCE also utilizes satellite data from the National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) to confirm and track the existence of fires within the SCE service territory.[490] Additionally, SCE created a map page on its website for customers to view fire detections from these satellites along with fire

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[484] Table 10-3: Grid Operation Monitoring Systems, SCE 2026-2028 Base WMP, R2, pages 394-395.

[485] SCE 2026-2028 Base WMP, R2, page 395.

[486] SCE 2026-2028 Base WMP, R2, page 400.

[487] SCE 2026-2028 Base WMP, R2, page 400.

[488] SCE 2026-2028 Base WMP, R2, pages 409 - 410.

[489] SCE 2026-2028 Base WMP, R2, page 410.

[490] SCE 2026-2028 Base WMP, R2, page 412.

perimeters generated by the local fire agencies.[491] This website also includes weather station observation from the National Weather Service to provide SCE's customers with increased situational awareness of emerging fire incidents. These additions to their website provide comprehensive real-time fire and weather information to their customers for increased transparency.

10.2.4 Weather Forecasting

In its 2026-2028 Base WMP, SCE reported a large network of weather stations that are continuously updated with real-time data, thereby reducing the likelihood of wildfires spreading undetected in its service territory. However, there may still be room for improvement as SCE evaluate lessons learned from January 2025, particularly for any potential gaps in SCE's weather forecasting system.

SCE created an ensemble forecast consisting of 18 individual Weather Research and Forecasting (WRF) model solutions at a two-kilowatt spatial granularity.[492] The WRF is continuously updated with data from 1,947 machine learning weather stations within SCE's service territory to provide its meteorologists with rapidly updated forecasts and data for the WRF model solution.[493] These weathers stations use five different types of machine learning systems that SCE gradually implemented at its weather stations.

These new machine learning deployments should aid in providing greater granularity in SCE's daily weather forecasts.

SCE also will continue to operate and maintain a network of 1,787 weather stations and strives to maintain 99 percent network operability.[494] In 2024, SCE was able to perform maintenance on all of its weather stations except two. It was able to calibrate one of those in January 2025.[495] The other station is only available by hydroelectric trolley that is currently out of service, and SCE plans to calibrate it at the next available opportunity.[496] SCE's use and calibration of its network of weather stations should allow for more granularity and real-time data to assist in ignition detection and forecasting, reducing the risk of wildfire spread. As part of SCE's overall evaluation for lessons learned from its experiences during the January 2025 severe weather event and wildfires, SCE must continue to evaluate potential weather forecasting gaps , as discussed in Section 7.1.1 and Section 13.1.1.

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[491] SCE 2026-2028 Base WMP, R2, page 411.

[492] SCE 2026-2028 Base WMP, R2, page 416.

[493] SCE 2026-2028 Base WMP, R2, page 420.

[494] SCE 2026-2028 Base WMP, R2, page 426.

[495] SCE 2026-2028 Base WMP, R2, page 427.

[496] SCE 2026-2028 Base WMP, R2, page 427.

10.2.5 Fire Potential Index

In its 2026-2028 Base WMP, SCE reported that it adjusts its FPI thresholds based on many site-specific variables, thereby reducing the likelihood of ignition in its service territory. However, there may still be room for improvement as SCE evaluate lessons learned from January 2025, particularly for any potential gaps in SCE's FPI Assessment.

The threshold values in SCE's FPI change depending on the location, which helps SCE determine when to initiate a PSPS event. For example, most areas in SCE's service territory will enter a PSPS event at an FPI score of 13, however SCE identified a higher ignition factor along its coastal region.[497] This means that PSPS events in the coastal region have a lower FPI threshold of 12 due to a significantly higher ignition risk factor and limited access to potential ignition areas and previous fire history.[498] Similarly, in its response to Data Request 3, Question 2, SCE stated that on Catalina Island SCE initiates PSPS events at an FPI score of 11.[499] SCE clarified in the same data request response that this lower threshold is due to the very limited local firefighting capabilities and because the town of Avalon has restricted egress issues in the event of an emergency.[500]

Adjusting FPI thresholds for specific locations demonstrates that SCE incorporates site-specific wildfire risk into its PSPS initiation assessments. This should reduce SCE's wildfire risk because, as SCE stated in the same data request response, SCE does not treat wildfire threat as uniform across its service territory, allowing SCE to make refined predictions based on site-specific information.[501] As part of SCE's overall evaluation for lessons learned from its experiences during the January 2025 severe weather event and wildfires, SCE must continue to evaluate potential gaps in FPI assessment, as discussed in Section 7.1.1. and Sections 13.1.1.

Additionally, as SCE stated in its response to Data Request 3, Question 2, SCE issues and declares a Fire Weather Threat (FWT) for distribution and subtransmission lines when FPI thresholds reach an 11.[502] As SCE stated in the same data request response, when a FWT is declared, reclosers for identified circuits are set to "non-automatic" operating restrictions.[503] Having reclosers operate as non-automatic allows the circuit to become completely de-

[497] SCE 2026-2028 Base WMP, R2, page 429.

[498] SCE 2026-2028 Base WMP, R2, page 429.

[499] Response to Data Request 3.

[500] Response to Data Request 3.

[501] Response to Data Request 3.

[502] Response to Data Request 3.

[503] Response to Data Request 3.

energized until any problem is fully resolved, reducing the risk of operational error causing a wildfire in SCE's service territory.

10.3 Areas for Continued Improvement

Energy Safety identifies no previous or new areas for continued improvement in the Situational Awareness and Forecasting section for the SCE 2026-2028 Base WMP.

11. Emergency Preparedness, Collaboration, and Community Outreach

Chapter III, Section 11 of the WMP Guidelines requires the electrical corporation to provide an overview of its emergency plan and describe its communication strategy with public safety partners, essential customers, and other stakeholder groups regarding wildfires, outages due to wildfires, and PSPS and service restoration. [504] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

11.1 Discussion

This section discusses Energy Safety's evaluation of the emergency preparedness, collaboration, and public awareness section of the SCE 2026-2028 Base WMP.

11.1.1 Emergency Preparedness and Recovery Plan

In its 2026-2028 Base WMP, SCE reported several ways it maintains emergency preparedness procedures in the event of a wildfire, such as: agreements with other counties and relevant agencies, guidelines for health and power restoration, and comprehensive training for SCE personnel. However, there may still be room for improvement as SCE evaluate lessons learned from January 2025, particularly when gauging the effectiveness of SCE's guidelines and procedures.

SCE reported that every year it enters into Memorandums of Understanding (MOUs) with Los Angeles, Ventura, and Orange County firefighting agencies "to create a quick reaction force of aerial firefighting resources."[505] While these MOUs have existed since 2019, in December 2022, SCE created a funding agreement with these counties to expand the quick reaction force coverage from 165 days per year to year round coverage, which is the current arrangement.[506] These agreements demonstrate SCE looks to streamline and expedite cooperation with county firefighting agencies in the event of emergencies, with a funding mechanism to assist with the deployment of resources.

Additionally, due to the number of potential emergency incidents in SCE's service territory, SCE developed guidelines to prioritize public health and safety, and restore power to the

[504] Pub. Util. Code § 8386(c)(7), (11), (16), (19)-(21).

[505] SCE 2026-2028 Base WMP, R2, page 443.

[506] SCE 2026-2028 Base WMP, R2, page 443.

largest and most critical number of customers as quickly as possible.[507] These guidelines are meant to ensure that SCE has protocols to proactively triage emergencies and minimize the negative effects of those emergencies on its customers. As part of SCE's overall evaluation for lessons learned from its experiences during the January 2025 severe weather event and wildfires, SCE must evaluate how effective these guidelines were during the January 2025 severe weather event and wildfires, as discussed in Sections 7.1.1. and 13.1.1.

Finally, as part of SCE's emergency preparedness procedures, SCE's Incident Management Team (IMT) and Incident Support Team are required to undergo comprehensive Incident Command System training that is comparable to the same qualifications as a CAL FIRE IMT team.[508] This demonstrates that SCE is comprehensively investing in its relevant personnel to ensure their ability to work with any emergency partners.

11.1.2 External Collaboration and Coordination

In its 2026-2028 Base WMP, SCE listed ways it engages with local and tribal governments. For example, every year SCE sends updated WMP and PSPS information to local and tribal governments in advance of its fire season.[509] When SCE sends this information, it requests emergency contacts and what community resource centers would be available in the event of an emergency.[510]

Additionally, SCE stated that it will continue to periodically provide tours to tribal leaders of the Emergency Operation Center (EOC) throughout the year.[511] These tours are intended to provide a look behind the scenes and to increase tribal leader understanding of how SCE decides to initiate a PSPS event.[512]

11.1.3 Public Communication, Outreach, and Education Awareness

SCE utilizes a combination of tools to engage customers during emergencies and proactively during non-emergencies. However, there are still potential gaps to close in SCE's existing notification processes.

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[507] SCE 2026-2028 Base WMP, R2, page 445.

[508] SCE 2026-2028 Base WMP, R2, pages 440 – 441.

[509] SCE 2026-2028 Base WMP, R2, page 454.

[510] SCE 2026-2028 Base WMP, R2, page 454.

[511] SCE 2026-2028 Base WMP, R2, page 454.

[512] SCE 2026-2028 Base WMP, R2, page 454.

For example, SCE primarily uses the Emergency Outage Notifications System (EONS) to engage with customers in advance of, after, and throughout both wildfire and PSPS events.[513] EONS allows SCE to communicate to any customer classes receiving under 66 kV power impacted by wildfire and/or PSPS via emails, voice calls, and/or text messages.[514] PSPS notification translations are available in 23 languages.[515] Nonetheless, as discussed in Section 7.1 of this Decision , the CPUC received numerous complaints alleging failure to provide notifications prior to de-energization.[516] As part of SCE's overall evaluation for lessons learned from its experiences during the January 2025 severe weather event and wildfires, SCE must identify gaps where the current notification processes fell short, i.e., customers having missed notifications; determine the reasons for those gaps; and identify potential lessons learned as discussed in Sections 7.1.1. and 13.1.1.

Additionally, SCE's integrated marketing campaign includes its PSPS Newsletter, "which is emailed annually to all customers in both HFRA and non-HFRA with tailored content."[517] The content is different depending on if the customer resides in an HFRA, "…the HFRA version highlights wildfire mitigation efforts and PSPS impacts, while the non-HFRA version emphasizes outage safety tips and emergency preparedness."[518] This targeted approach demonstrates that SCE is taking steps to engage with customers and focusing on the message depending on the need of customers in areas with different wildfire risk, therefore leading to more effective customer communication.

11.1.4 Customer Support in Wildfire and PSPS Emergencies

SCE's personnel manage many resources and programs to assist customers both proactively and during emergencies.

SCE's dedicated customer support team manages "…a portfolio of services and resources" to engage with customers in advance of, after, and throughout both wildfire and PSPS events.[519] Some of these services are available during all major emergencies, such as food support, community resource centers, "…and Disability Disaster and Access Resources (DDAR) programs to facilitate transportation, hotel accommodations, and general in-event support."[520]

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[513] SCE 2026-2028 Base WMP, R2, page 458.

[514] SCE 2026-2028 Base WMP, R2, page 458.

[515] SCE 2026-2028 Base WMP, R2, page 458.

[516] Letter from President Reynolds to SCE, page 2.

[517] SCE 2026-2028 Base WMP, R2, page 463.

[518] SCE 2026-2028 Base WMP, R2, page 463.

[519] SCE 2026-2028 Base WMP, R2, page 472.

[520] SCE 2026-2028 Base WMP, R2, page 472.

SCE states it will continue to offer several programs to support customers during PSPS events. These include the Critical Care Backup Battery Program, the Portable Power Rebate Program, which provides up to $150 toward the purchase of portable power systems, and an in-event battery loan program that supplies temporary backup power to AFN customers living in a HFRA who rely on medical devices.[521, 522, 523] These services help SCE engage customers in a way that promotes resilience and support.

11.2 Previous Areas for Continued Improvement

In the Energy Safety Decision for the SCE 2025 WMP Update, Energy Safety identified areas related to emergency preparedness, collaboration, and public awareness where SCE must continue to improve its wildfire mitigation capabilities. This section summarizes the requirements imposed by those areas for continued improvement, SCE's response to those requirements, and Energy Safety's evaluation of the response.

11.2.1 SCE-23B-21. Community Outreach 3- and 10-Year Objectives – Verification Methods

For this area for continued improvement, Energy Safety required SCE to disclose all methods it used to verify progress on objectives within the tables describing its 3-year and 10-year community outreach objectives, including all verification methods to demonstrate effectiveness in its 2026-2028 Base WMP.[524]

11.2.1.1 SCE-23B-21: SCE Response Summary

In its 2026-2028 Base WMP, SCE reported the metrics it uses to document and verify community outreach efforts and its future plans for doing so, aligned with additional guidance from the 2026-2028 WMP Guidelines.

For example, SCE removed its 10-year objectives and converted its 3-year objectives to qualitative targets consistent with the requirements in the 2026-2028 WMP Guidelines.[525]

SCE also included many documented variables to measure outreach effort effectiveness. For example, SCE documented wildfire meeting attendance, customer research, battery deliveries, and rebate processing in its 2026-2028 Base WMP. SCE also stated that it specifically measures communication effectiveness via customer recall metrics systemwide,

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[521] SCE 2026-2028 Base WMP, R2, pages 474-475.

[522] SCE 2026-2028 Base WMP, R2, page 475.

[523] SCE 2026-2028 Base WMP, R2 pages 475-476.

[524] Decision on SCE 2025 WMP Update, page 57.

[525] SCE 2026-2028 Base WMP, R2, page 605.

and more specifically within HFRAs.[526] In the future, SCE states that it will also track outreach targets using documentation and verification methods.[527] These examples demonstrate that SCE is making efforts to gauge outreach effort effectiveness in the future.

11.2.1.2 SCE-23B-21: Energy Safety Evaluation

SCE provided the documentation it uses to gauge community outreach effectiveness, with clear future plans and its verification methods. SCE also aligned this section with the requirements in the 2026-2028 WMP Guidelines and removed 3- and 10-year objectives. As such, SCE sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. However, as part of SCE's overall evaluation for lessons learned from its experiences during the January 2025 severe weather event and wildfires, SCE must evaluate the effectiveness of its communications during the January 2025 severe weather event and wildfires as described in Section 7.1.1. and area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned.

[526] SCE 2026-2028 Base WMP, R2, page 605.

[527] SCE 2026-2028 Base WMP, R2, page 605.

12. Enterprise Systems

Chapter III, Section 12 of the WMP Guidelines requires the electrical corporation to provide an overview of inputs to, operation of, and support for various enterprise systems it uses for vegetation management, asset management and inspection, grid monitoring, ignition detection, weather forecasting, and risk assessment initiatives. [528] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

12.1 Discussion

This section discusses Energy Safety's evaluation of the enterprise systems section of the SCE 2026-2028 Base WMP.

SCE demonstrated growth in data governance, including data on its risk assessment and asset and vegetation management inspections.

12.1.1 Uniform Data Governance Practices

SCE implemented forward-looking data governance practices across all its enterprise systems, including a combination of internal Information Technology (IT) and external contractor support.[529] For example, SCE's risk assessment database containing data on ignitions, wire-down events, underground equipment failures, and repair orders is used by failure analysis engineers to "document root cause and analyze trends related to Probability of Ignition (POI)."[530] This is important because risk event data and subsequent analysis are used to calibrate POI, which allows SCE to update its models more frequently and to account for actual on-the-ground events in its internal modeling. Retaining this data internally and following SCE's data governance policies regarding data quality and data availability across enterprise systems allows engineers to properly ingest actual events into internal models, helping to improve model accuracy.

12.1.2 Updates to Inspection Data

SCE's data on asset and vegetation management inspections is stored using third-party software.[531] The third-party software is able to ingest results of SCE's pilot on the use of LiDAR to detect vegetation encroachment.[532] This integration with third-party software is important

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[528] Pub. Util. Code § 8386(c)(10), (14), (18).

[529] SCE 2026-2028 Base WMP, R2, pages 479-480.

[530] SCE 2026-2028 Base WMP, R2, page 480.

[531] SCE 2026-2028 Base WMP, R2, page 480.

[532] SCE 2026-2028 Base WMP, R2, page 480.

to the flexibility of SCE's vegetation management work plan because it allows for LiDAR and other imagery (e.g., satellite or orthoimagery) data to be directly ingested into SCE's vegetation management work plan, allowing for adjustments based on actual observed conditions.

SCE explained that its asset data is updated when a change is made to the electrical infrastructure system or when a discrepancy is found between equipment in the field and SCE's database to ensure accuracy and completeness.[533] This system allows for regular updates as new data is added and increases the accuracy of SCE's models.[534] As data quality increases during updates, the output of the database is improved, leading to better mitigation efforts across the entire service territory. This timely updating allows for a more accurate picture of the SCE's asset health in its service territory. SCE also extracts equipment failure, asset information, and weather data from its risk event database, and uses third-party software to refresh its POI model and to aid in the selection of appropriate mitigation activities.[535] SCE's ability to update models with asset inspection data at a quicker frequency allows for improved modeling and better risk reduction activities overall.

12.1.3 Weather Forecasting Data

SCE explained how it forecasts weather and the data it uses to populate its forecasting models. SCE's weather forecast information is populated from both in-house models and public weather data from vendors at a frequency of up to hourly.[536] SCE's generates its own forecast "consisting of 18 individual Weather Research and Forecasting (WRF) model solutions."[537] SCE develops these forecasts using various inputs of weather and fuels modeling, including "operational and historical Weather Research and Forecasting Model Inputs, Machine Learning, and atmospheric conditions such as temperature, wind direction, and wind speed.[538] This allows SCE to generate more locally relevant projections of weather patterns and be more granular in its approach to weather projections by using a variety of data to input into machine learning forecast models.

SCE's meteorologists consult rapidly updating forecasts, generated hourly, from the National Centers for Environmental Prediction's High Resolution Rapid Refresh model to "…provide output for sustained wind speed and wind gust speed at resolutions down to 500-m grid

[533] SCE 2026-2028 Base WMP, R2, page 481.

[534] SCE 2026-2028 Base WMP, R2, page 481.

[535] SCE 2026-2028 Base WMP, R2, page 483.

[536] SCE 2026-2028 Base WMP, R2, page 416.

[537] SCE 2026-2028 Base WMP, R2, page 416.

[538] Cooney, Downscaling Article.

spacing."[539] SCE also shares its weather station observations in the Meteorological Assimilation Data Ingest system that the National Weather Service uses to integrate observational data from third-party sources into the models that are used by SCE.[540]

SCE retains historical weather data to guide weather and fuel models used for weather forecasting, including data gathered from individual weather stations within SCE's territory.[541] SCE utilizes a third-party cloud software to house archived data.[542] This archived data is ingested internally by its "High Performance Clusters (HPCCs) to run weather and fuel models used for weather forecasting, PSPS, emergency preparedness and response."[543] SCE also committed to upgrading HPCC infrastructure as it nears the end of its lifecycle for future weather and fuel modeling.[544] Upgrading system hardware to ingest archived data and the historical weather and fuel models archived and stored on the cloud for use in future events shows continued improvement in the forecasting ability of SCE's internal meteorologists. Moreover, further data retention and integration into machine learning tools will continue to increase weather and fuel data visibility to allow for better decision-making during extreme weather and PSPS events.

12.1.4 Migration of Legacy Systems

In its 2026-2028 Base WMP, SCE stated that it plans to continue updating its legacy systems and integrating data platforms for more information-sharing between SCE's systems.[545] For example, SCE stated that it is currently migrating its asset data from legacy systems to a new system.[546] This data migration, along with the integration of different third-party platforms, demonstrates a forward-looking investment in platform resilience.

12.2 Areas for Continued Improvement

Energy Safety identifies no previous or new areas for continued improvement in the Enterprise Systems section for the SCE 2026-2028 Base WMP.

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[539] SCE 2026-2028 Base WMP, R2, page 422.

[540] SCE 2026-2028 Base WMP, R2, page 416.

[541] SCE 2026-2028 Base WMP, R2, page 481.

[542] SCE 2026-2028 Base WMP, R2, page 481.

[543] SCE 2026-2028 Base WMP, R2, page 481.

[544] SCE 2026-2028 Base WMP, R2, page 481.

[545] SCE 2026-2028 Base WMP, R2, page 480.

[546] SCE 2026-2028 Base WMP, R2, page 480.

12.3 Revision Notice Critical Issues

Energy Safety issued SCE a Revision Notice for its 2026-2028 Base WMP. This section evaluates SCE's response to that Revision Notice as it relates to enterprise systems.[547]

12.3.1 RN-SCE-26-10. SCE's Targets in Table 12-1 Lack Specificity and Are Not Measurable

Energy Safety required SCE to revise its 2026-2028 Base WMP to provide qualitative targets for the Vegetation Work Management System (VM-6) and Inspection and Maintenance Tools (IN-8) activities that are specific, measurable, and reflect the changes described in the associated WMP narrative.[548]

12.3.1.1 RN-SCE-26-10: SCE Response Summary

In its Revision Notice Response, SCE provided updated targets for its VM-6 and IN-8 activities that provide more specific information about SCE's rollout of each activity over each of the WMP cycle years. For example, in *Table 12-1: SCE Enterprise Systems Targets*, SCE's targets for VM-6 describe continued software enchancements of mobile applications in 2026, integration of additional functionalities into current software for vegetation management transmission and distribution inspections in 2027, and specifically how and when SCE plans to transfer recordkeeping in 2028.[549]

Similarly, in Table 12-1*: SCE Enterprise Systems Targets*, SCE's targets for IN-8 describe the rollout of new software for distribution and 360 inspections in 2026, integrating software and how SCE plans to enhance inspection activity in 2027, and how SCE plans to more fully rollout integration across its systems in 2028.[550]

12.3.1.2 RN-SCE-26-10: Energy Safety Evaluation

SCE's revised targets for VM-6 and IN-8 are now more specific, measurable, and consistent with explanations in the associated WMP sections. Therefore, Energy Safety finds that SCE has resolved this critical issue.

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[547] SCE Revision Notice Response, pages 28 and 29.

[548] SCE Revision Notice, page 16.

[549] SCE 2026-2028 Base WMP, R2, page 478.

[550] SCE 2026-2028 Base WMP, R2, page 478.

13. Lessons Learned

Chapter III, Section 13 of the WMP Guidelines requires the electrical corporation to discuss the lessons learned it uses to drive continual improvement in its WMP. [551] The SCE 2026-2028 Base WMP met the requirements of the WMP Guidelines for this section.

13.1 Discussion

This section discusses Energy Safety's evaluation of the lessons learned section of the SCE 2026-2028 Base WMP.

SCE included its lessons learned in *Table 13-1: SCE Lessons Learned*,[552] detailing collaborations and lessons learned that led to systemic changes, such as SCE's decision to proactively shunt splices throughout its service territory.[553] However, SCE did not include any lessons learned resulting from its experiences during the January 2025 severe weather event and wildfires, an omission that requires more explanation.

SCE is actively working with other entities, in addition to participating in collaborations as required by Energy Safety. For example, SCE participated in Energy Safety's Risk Modeling Working Group as required by Energy Safety.[554] SCE also continues to collaborate with other California IOUs though the Covered Conductor and Vegetation Line Clearances Working Groups as required by Energy Safety. These collaboration efforts resulted in meetings on items such as laboratory testing and benchmarking for the Risk Model Working Group, and the creation of a cross-utility database for the Covered Conductor and Vegetation Line Clearances Working Group.[555]

Outside of the collaboration required by Energy Safety, SCE listed many examples of collaboration with other entities on the topic of wildfire mitigation through its own volition, including the Edison Electrical Institute (EEI), the Pacific Builders Conference, and the Western Energy Institute (WEI) Wildfire Conference.[556] This collaboration may lead to more lessons learned that may improve SCE's wildfire mitigation programs.

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[551] Pub. Util. Code §§ 8386(a) & (c)(5), (22).

[552] SCE 2026-2028 Base WMP, R2, pages 486-498.

[553] SCE 2026-2028 Base WMP, R2, page 503.

[554] SCE 2026-2028 Base WMP, R2, page 499.

[555] SCE 2026-2028 Base WMP, R2, page 499.

[556] SCE 2026-2028 Base WMP, R2, page 503.

In its 2026-2028 Base WMP, SCE listed 24 lessons learned in *Table 13-1: SCE Lessons Learned*.[557] Some of these lessons learned resulted from SCE's analysis of its own efforts. For example, SCE analyzed data uses of Live Field Observers (LFOs) and noted that LFOs "can use field wind meters as an additional data source on current wind speeds" during PSPS events.[558] SCE additionally noted that these wind meters can accurately log the data in SCE's survey to provide more timely data to the incident managers.[559] Learning from this lesson, SCE deployed Bluetooth-enabled wind meters, which will allow LFOs to take readings from higher elevations.[560] This demonstrates SCE is actively improving and incorporating lessons learned of its own volition.

In another case, SCE systemically adopted a new practice identified through one of its lessons learned. In 2022-2024, SCE conducted x-ray inspections on its transmission splices (IN-9.b) that "…resulted in a high rate of splice shunting."[561] Specifically, x-ray inspections resulted in a 55 percent notification rate, which means that many inspections found faulty splices.[562] Due to this high find rate, SCE discontinued the IN-9.b activity and decided to proactively shunt splices without the need for additional inspections.[563] This proactive splicing is tracked through the new SH-20 activity, which sets the goal of shunting 500 splices in 2026, and additional splice shunting in 2027 and 2028 based on lessons learned from earlier years, all in the HFTD.[564] This demonstrates that SCE is making systemic adjustments to its processes based on lessons learned and applying those learnings in the HFTD.

While SCE's responses adequately addressed the WMP Guidelines requirements, SCE offered little insight into any lessons learned from SCE's experience during the January 2025 severe weather event and wildfires.[565] This lack of detail is concerning given the scope, scale, and the hundreds of thousands of customers impacted by the severe weather event, including the wildfires that occurred in SCE's service territory.[566, 567]

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[557] SCE 2026-2028 Base WMP, R2, pages 486-498.

[558] SCE 2026-2028 Base WMP, R2, pages 486-498.

[559] SCE 2026-2028 Base WMP, R2, page 489.

[560] SCE 2026-2028 Base WMP, R2, page 489.

[561] SCE 2026-2028 Base WMP, R2, page 503.

[562] SCE 2026-2028 Base WMP, R2, page 258.

[563] SCE 2026-2028 Base WMP, R2, page 503.

[564] Table 8-1: SCE Grid Design, Operation, and Maintenance Targets by year, row 4, SCE 2026-2028 Base WMP, R2, page 219.

[565] WMP Guidelines, pages 168-169.

[566] https://www.reuters.com/business/energy/californian-utility-socal-edison-shuts-power-over-114000-customers-due-wildfire-2025-01-08/.

[567] https://www.utilitydive.com/news/southern-california-edison-eix-wildfire-eaton-hurst/739622/.

Given that the severe wind event and wildfires occurred in SCE's service territory, SCE must demonstrate that it is learning from its experiences during the January 2025 severe weather event and wildfires.[568, 569]

13.1.1 January 2025 Severe Weather and Wildfires

The absence of any lessons learned or a plan for incorporating lessons learned regarding the January 2025 severe weather and wildfires is concerning.

The Santa Ana winds that fueled the severe weather event unleashed hurricane-force winds of at least 50 to 70 miles per hour (greater at higher elevations), which is so rare that only one recorded instance in 2011 even approached the force of these winds.[570, 571] By January 12, 2025, the wildfires collectively consumed around 60 square miles (or a little over 38,000 acres), with the Eaton and Hurst fires largely within SCE's service territory, affecting and displacing many SCE customers.[572, 573]

In its 2026-2028 Base WMP, SCE briefly acknowledged the impact that the January 2025 wildfires had on its system and customers, and stated that it "plans to evaluate if changes to its risk models are warranted" and undergrounding in the Altadena burn scar.[574, 575] However, apart from these statements, SCE did not include any definitive lessons learned from SCE's experiences responding to the January 2025 severe weather event, nor did it include any plan SCE may have to incorporate any lessons learned from the severe weather event and wildfires. Given the scope, scale, and number of SCE customers affected, it is important that SCE is actively learning from its experiences during the January 2025 severe weather event and wildfires.

The absence of any plan for incorporating lessons learned is concerning, particularly given that SCE had time to identify gaps that would need to be addressed before submitting its

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[568] https://www.cpuc.ca.gov/industries-and-topics/wildfires/wildfires-staff-investigations; https://www.utilitydive.com/news/determining-cause-of-eaton-fire-could-take-12-18-months-edison-international/741302/#:~:text=from%20your%20inbox.-,Determining%20cause%20of%20Eaton%20fire%20could%20take%2012%2D18%20months,Emma%20Penrod.

[569] https://www.reuters.com/business/energy/californian-utility-socal-edison-shuts-power-over-114000-customers-due-wildfire-2025-01-08/ ; https://www.nbcnews.com/news/us-news/live-blog/california-wildfires-live-updates-rcna187240.

[570] SCE January 2-17, 2025 PSPS Report, page 1.

[571] https://www.cnn.com/2011/12/03/us/california-wind-recovery/index.html.

[572] https://www.utilitydive.com/news/southern-california-edison-eix-wildfire-eaton-hurst/739622/.

[573] https://www.cnn.com/weather/live-news/los-angeles-wildfires-palisades-eaton-california-01-12-25/index.html.

[574] SCE 2026-2028 Base WMP, R2, page 3.

[575] SCE 2026-2028 Base WMP, R2, pages 238-239.

2026-2028 Base WMP. The severe weather and wildfires occurred in January 2025, and Energy Safety did not require SCE to submit its 2026-2028 Base WMP until May 16, 2025.[576] Capturing and incorporating these lessons learned may assist in improving SCE's WMP submission. Additionally, Energy Safety requires electrical corporations to plan for high consequence, low likelihood, or "black swan" events, like the January 2025 severe weather event and wildfires.[577] For example the WMP Guidelines require each electrical corporation's risk models are required to incorporate these "black swan events."[578] Energy Safety will require more reporting on SCE's lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires through area for continued improvement SCE-26B-20: January 2025 Severe Weather and Wildfires Lessons Learned.

13.2 Areas for Continued Improvement

As discussed above, Energy Safety has identified areas pertaining to Lessons Learned where the electrical corporation must demonstrate improvement in a future, specified WMP submission. This section sets forth the requirements for improvement.

13.2.1 SCE-26B-20. January 2025 Severe Weather and Wildfires Lessons Learned

Summary: SCE did not include any lessons learned from the January 2025 severe weather event and wildfires, nor did it include a plan for incorporating lessons learned from them.

Requirements: In its next WMP submission, in addition to the PSPS lessons learned reported in area for continued improvement SCE-26B-10, SCE must:

- Update *Table 13-1: Lessons Learned*, with any lessons learned from SCE's experiences in the January 2025 severe weather event and wildfires.
- Update the associated WMP narrative to explain any lessons learned from SCE's experiences in the January 2025 severe weather event and wildfires.

Discussed in: Section 13.1.1 January 2025 Severe Weather and Wildfires

Appendix C provides a consolidated list of areas for continued improvement and requirements.

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[576] 2026-2028 Base WMP Submission Schedule.

[577] WMP Guidelines, pages 44-45.

[578] WMP Guidelines, pages 44-45.

14. Cross-Category

14.1 Areas for Continued Improvement

Energy Safety identifies no previous or new areas for continued improvement in the Cross-Category section of the SCE 2026-2028 Base WMP.

14.2 Revision Notice Critical Issues

Energy Safety issued SCE a Revision Notice for its 2026-2028 Base WMP. This section evaluates SCE's response to that Revision Notice as it relates to cross-category themes.[579]

14.2.1 RN-SCE-26-01. SCE Commits to Low WMP Targets While Indicating it Can Likely Achieve Much More Via the Inclusion of What it Calls "Strive Targets."

SCE submitted its 2026-2028 Base WMP on May 16, 2025, with mitigation activity targets and what SCE called "strive targets."[580] SCE mentioned strive targets in both its WMP narrative and in required target tables.[581] These strive targets introduced qualifying language into the 2026-2028 Base WMP, and when present in the target tables it was unclear whether SCE used the strive target or the target to calculate the single risk reduction percentage listed.[582] Finally, based on the information provided and SCE's historical performance it was unclear how SCE set its strive targets.[583]

Accordingly, Energy Safety required SCE to revise its 2026-2028 Base WMP to provide the following:[584]

- For mitigation activities in which SCE has "strive targets," it must explain why there is a difference between the target and the "strive target," including:
    - The factors that prevent SCE from setting the "strive target" as its target.
    - The steps SCE plans to take to reduce the difference between the target and "strive target" in the future.

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[579] SCE Revision Notice Response, page 2.

[580] SCE Revision Notice, pages 3-4.

[581] SCE Revision Notice, pages 3-4.

[582] SCE Revision Notice, pages 3-4.

[583] SCE Revision Notice, pages 4.

[584] SCE Revision Notice, pages 4-5.

- SCE must discuss its "strive targets" in the mitigation activity narrative and must remove "strive targets" and associated footnotes from all target tables. With the removal of "strive targets" from the target tables, SCE must update any information impacted by the removal in both the tables and supporting narrative.
- For targets that are currently set below any of SCE's historical performance since 2020 and where SCE met or exceeded its targets, SCE must either:
    - Increase its target to better align with SCE's historical performance where SCE met or exceeded its targets, or
    - Explain why it cannot do so. SCE must provide explanations for all sections that currently contain targets and strive targets, including:
        - Situational Awareness
        - Grid Design, Operations, and Maintenance,
        - Vegetation Management, and
        - Emergency Preparedness

14.2.1.1 RN-SCE-26-01: Response Summary

In its Revision Notice Response, SCE removed all "strive targets" from *Tables 8-1: Equipment Maintenance and Repair Strategy, 9-2: SCE Vegetation Inspections and Pole Clearing Targets by Year*, *10-1: Situational Awareness Targets by Year*, and *11-1: Situational Awareness Targets by Year* and updated any associated tables impacted by the removal of strive targets.[585] SCE also recalculated all the risk reduction percentages in the three tables that contained strive targets.[586] SCE also recalculated the risk reduction percentages from Tables *6-3: SCE Risk Impact of Activities* and *6-4: SCE Summary of Risk Reduction for Top-Risk Circuits* because strive targets affected the original inputs used to calculate the percentages.[587]

All discussions of strive targets are now included in the narratives for each respective mitigation activity.

14.2.1.2 RN-SCE-26-01: Energy Safety Evaluation

As required in the Revision Notice, SCE removed all strive targets from relevant target tables and recalcuated all relevant risk reduction percentages in those tables. SCE confined all discussion on strive targets to the WMP narrative as directed. As such, Energy Safety finds that SCE has resolved this critical issue.

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[585] SCE Revision Notice Response, page 2.

[586] SCE Revision Notice Response, page 11.

[587] SCE Revision Notice Response, page 11..

15. Conclusion

15.1 Discussion

Each electrical corporation must construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment. When Energy Safety approves a WMP, it does so with the aim of continued improvement and may list areas for continued improvement which the electrical corporation must address. Energy Safety's evaluation of SCE's 2026-2028 Base WMP identified both notable progress and areas that continue to require improvement.

SCE's planned actions set forth in its 2026-2028 Base WMP will reduce wildfire risk. Specifically, through demonstrated progress in inspections, work order clearances, REFCL deployment, and structure brushing. For example, SCE closed more ignition risk work orders than it created, and remains the only large electrical corporation in California with REFCL targets. SCE expanded the scope of its structure brushing to include transmission structures and, relative to the other large electrical corporations, SCE's distribution and transmission high fire risk-informed inspections is the most comprehensive, including ground and aerial inspections.

SCE also continues to incorporate lessons learned to embed programmatic changes into its WMP processes. For example, based on its own pilot results, SCE implemented a more comprehensive standard that requires vibration dampeners on all new covered conductor installations. Based on the high find rate of its x-ray inspections, SCE is deploying a Transmission Proactive Splice Shunting pilot that will proactively shunt transmission splices across its service territory.

In addition to SCE's progress, Energy Safety identified 20 areas for continued improvement (Appendix C), including two areas for continued improvement that require SCE to detail lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires. Energy Safety expects SCE to effectively address these concerns and Energy Safety will closely monitor SCE's progress on the areas for continued improvements.

15.2 Approval

The SCE 2026-2028 Wildfire Mitigation Plan is approved.

Catastrophic wildfires remain a serious threat to the health and safety of Californians. Electrical corporations, including SCE, must continue to make progress toward reducing wildfire risk.

Energy Safety expects SCE to effectively implement its wildfire mitigation activities to reduce wildfire and outage program risk.

SCE must meet the commitments in its approved WMP and address areas for continued improvement identified within this Decision to ensure it meaningfully reduces wildfire and outage program risk within its service territory over the plan cycle.

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APPENDICES

APPENDICES

Appendix A. References Table

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SCE January 2-17, 2025 PSPS Report	Southern California Edison Company, SCE PSPS Post Event Report – January 2, 2025 to January 17, 2025, published March 3, 2025, URL:(https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-and-enforcement-division/reports/psps-post-event-reports/2025/20250104sce-psps-post-event-reportdeenergizedfinal.pdf).
SCE January 17-27, 2025 PSPS Report	Southern California Edison Company, SCE PSPS Post Event Report – January 17, 2025 to January 27, 2025, published March 10, 2025, URL:(https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-and-enforcement-division/reports/psps-post-event-reports/2025/20250120sce-psps-post-event-reportdeenergizedfinal.pdf).
CPUC Settlement Decision	California Public Utilities Commission, Decision Approving Settlements, published August 15, 2014, URL:(https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M102/K368/102368219.PDF).

Appendix B. Status of Previous Areas for Continued Improvement

Energy Safety Decision for the SCE 2025 WMP Update identified areas for continued improvement. Areas for continued improvement are areas in which SCE must continue to improve its WMP. As part of the 2026-2028 Base WMP evaluation, Energy Safety reviewed the progress reported by SCE in addressing previously identified areas for continued improvement.

Areas for continued improvement identified in Energy Safety Decisions for the SCE 2025 WMP Update and that required progress reporting in the SCE 2026-2028 Base WMP are listed in Table B-1. The status column indicates whether each has been fully addressed. If not, the column notes where to find more information in this Decision.

Table B-1. SCE Previous Areas for Continued Improvement

ID	Title	Status
SCE-25U-01	Calculating Risk Scores Using Maximum Consequence Values	SCE has not sufficiently addressed the required progress. SCE must continue to improve in this area as outlined in area in its next Base WMP submission. See Section 5.2.1.2 for Energy Safety's evaluation of this area for continued improvement. Section 5.4.6 sets forth the requirements for improvement.
SCE-23B-04	Incorporation of Extreme Weather Scenarios into Planning Models	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 5.2.2.2 for Energy Safety's evaluation of this area for continued improvement.
SCE-25U-02	Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 6.2.1.2 for Energy Safety's evaluation of this area for continued improvement.
SCE-23B-22	Consideration of PSPS Damage in Consequence Modeling	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 7.2.1.2 for Energy Safety's evaluation of this area for continued improvement.
SCE-25U-03	Continuation of Grid Hardening Joint Studies	SCE has not sufficiently addressed the required progress. SCE must continue to improve in this area for its next WMP submission. See

ID	Title	Status
		Section 8.3.1.2 for Energy Safety's evaluation of this area for continued improvement. Section 8.4.1 sets forth the requirements for improvement.
SCE-25U-04	Consideration of Prior Actuals in Grid Hardening Targets	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 8.3.2.2 for Energy Safety's evaluation of this area for continued improvement.
SCE-25U-05	Transmission Conductor Splice Assessment	SCE has not sufficiently addressed the required progress. SCE must continue to improve in this area for its next Base WMP submission. See Section 8.3.3.2 for Energy Safety's evaluation of this area for continued improvement. Section 8.4.6 sets forth the requirements for improvement.
SCE-25U-06	Transmission High Fire Risk-Informed Inspections	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 8.3.4.2 for Energy Safety's evaluation of this area for continued improvement.
SCE-23B-16	Implementation of SCE's Consolidated Inspection Strategy, Use of its Tree Risk Index, and its Satellite-Based Inspection Pilot	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 9.3.1.2 for Energy Safety's evaluation of this area for continued improvement.

ID	Title	Status
SCE-23B-17	Continuation of Effectiveness of Enhanced Clearances Joint Study	SCE has not sufficiently addressed the required progress. SCE must continue to improve in this area for its next WMP submission. See Section 9.3.2.2 for Energy Safety's evaluation of this area for continued improvement. Sections 9.5.1 and 9.5.2 set forth the requirements for improvement.
SCE-23B-21	Community Outreach 3- and 10-Year Objectives – Verification Methods	SCE has sufficiently responded to this area for continued improvement. No further reporting is required for this area for continued improvement. See Section 11.2.1.2 for Energy Safety's evaluation of this area for continued improvement.

Appendix C. Consolidated List of Areas for Continued Improvement and Requirements

This appendix will be populated with a consolidated list of the areas for continued improvement and required progress identified in this Decision upon final publication of this Decision.

The list below consolidates all SCE's areas for continued improvement and requirements that SCE must address in future WMPs.

Risk Methodology and Assessment

SCE-26B-01. Ongoing Evaluation and Implementation of 24-hour Simulations

Summary: SCE is evaluating and implementing 24-hour simulations for wildfire consequences. It is unclear from SCE's 2026-2028 Base WMP what components of SCE's risk models are expected to transition to a 24-hour simulation. Given the potential for larger areas to be designated as high consequence with this transition from 8-hour to 24-hour simulations, the WMP must clarify how the different simulation durations are used in SCE's risk modeling approach. This clarification must provide a specific discussion of the criteria used in selecting which duration is appropriate and a justification of these criteria.

Requirements: In its next WMP Update, SCE must:

- Provide a description of the planned use of 8-hour and 24-hour simulations in the wildfire consequence model.
- Document the verification and validation basis of the 24-hour simulation approach.

Discussed in: Section 5.1.2.3 Simulation Duration

SCE-26B-02. Further Evaluation of Climate Impact on Extreme Event Scenarios

Summary: Many large electrical corporations and small and multi-jurisdictional utilities (SMJUs) are currently evaluating climate change impacts up to 2030, which is only two years past this 2026-2028 WMP cycle. This limits the understanding of maximizing risk benefit over an asset's lifetime, which far exceeds the timeframe in current climate change evaluations. The electrical corporations would likely benefit from collaborating on each corporation's climate change impact modeling, and determining the best way to calculate and integrate

climate change into wildfire risk models. SCE is valuable to this collaboration because SCE models climate change impacts beyond 2030.

In its 2026-2028 WMP, SCE developed an extreme event scenario looking at a synthetic year 2050 gridded climatology. The Climate Change 2050 (Wind and Weather) extreme event scenario is intended to provide insights into how forecasted conditions due to climate change may affect utility risk assessments. While SCE will be incorporating Global Climate Models to represent 2.0°C of warming in their analysis, it is unclear how this change impacts its risk model.

Requirements: In its next Base WMP SCE must:

- Provide a joint report with the other large electrical corporations and SMJUs evaluating the potential climate change impacts on wildfire risk over a fifty-year period to better understand potential risk reduction when implementing mitigations. This report must include identification of variables impacted by climate change and how those variables impact risk modeling of wildfire risk. At a minimum, these variables must include:
    - Extreme wind events
    - Extreme drought impacts
    - Vegetation pattern changes
    - Wildfire pyrome identification and boundary changes
- As part of the Risk Modeling Working Group and as directed by Energy Safety, contribute to discussions and reports on topics such as how the joint study impacted SCE's risk modeling efforts and how SCE plans to implement any changes and findings discussed regarding climate change.

Discussed in: Sections 5.2.2.2 SCE-23B-04: Energy Safety Evaluation, and 5.1.3 Risk Scenarios

SCE-26B-03. Development of Substantive Model Documentation

Summary: Several of the large electrical corporations and SMJUs do not currently have detailed technical documentation for all models and data sets used for risk analysis, including probability of failure, probability of ignition models, consequence models, weather models, and fuel models. While SCE provides details on its methods and validation documentation for its risk models, it does not provide adequate documentation of its ongoing efforts and verification.

Through the 2026-2028 Base WMP and data requests, SCE provided detailed documentation for its wildfire risk model and probability of ignition sub-models. However, improvements still need to be made, such as providing more detailed model documentation for differences in

handling transmission system assets in the risk model. As required in the WMP Guidelines,[1] SCE must be able to provide this detailed documentation upon request by Energy Safety.

Requirements: In its WMP Update SCE must:

- A detailed description of its risk models, including assumptions or statistical approaches used for the risk models. This must include an explanation for any assumptions and scaling factors used;
- A detailed description of datasets used for modeling probability of ignition, consequence, weather, and fuels; including sources for data and why each dataset was included; and
- A description of the verification and validation approaches of each model, including any available results.

Discussed in: Section 5.1.4.1 Transmission Asset Risk Models

SCE-26B-04. Sensitivity Analysis for Risk Averse Scaling

Summary: SCE has documented that its IWMS program (which only factors in consequence) is used to augment its MARS methodology (which considers likelihood and consequence) for mitigation and high-risk area selection.[2] Given the significant impact such scaling may have on a large electrical corporation's decision-making, large electrical corporations must collaborate to evaluate the impact of attribute function scaling on mitigation planning.

Requirements: In its next Base WMP SCE must:

- Collaborate with other large electrical corporations to establish which (if any) attributes are appropriate to apply scaling functions and an appropriate range or magnitude for each proposed scaling function.
- Complete a sensitivity analysis to determine how risk-averse approaches affect efficacy calculations or impact mitigation selection (e.g. selection of high-risk areas, selection of either covered conductor and undergrounding), and report the results of the analysis in the WMP.
- Discuss any differences in its mitigation strategy from using various risk-scaling strategies.

Discussed in: Sections 5.1.1 Risk Methodology, and 5.1.2.1 Monetization of Risk Models

[1] WMP Guidelines Appendix B, Page B-6.

[2] SCE 2026-2028 Base WMP, R2, page 152.

SCE-26B-05. Quantification of Wildfire Consequence Scaling Factors

Summary: Large electrical corporations are currently exploring the use of indices and data to provide a more accurate estimate of damage or loss of life resulting from a wildfire reaching a location. These methods vary significantly among electrical corporations and lack documented validation basis. For example, some large electrical corporations have adopted or are exploring the use of TDI (terrain difficulty index) factor or BLF (building loss factor) to more accurately capture the actual number of buildings destroyed and scale wildfire consequence scores. [3, 4] Large electrical corporations must discuss and benchmark their use of scaling and indices when calculating the consequence of a wildfire at a location while considering social vulnerability and the availability of suppression resources and infrastructure.

SCE currently incorporates an egress model in its IWMS program, however the model does not impact calculation of risk scores, and SCE instead relies on AFN and subject matter expertise to impact decision-making. [5] SCE is currently exploring the use of a third-party software's BLF. [6]

Requirements: In its next Base WMP SCE must:

- Provide its methods that account for social vulnerability or population demographics within wildfire consequence or demonstrate there is no variability across circuits even if factors such as AFN designation, Social Vulnerability Index, age of structures, or firefighting capacities are included in consequence modeling.
- Provide its methods that account for suppression impacts, such as development or adoption of an index to represent what fraction of impacted buildings will be destroyed.
- Discuss how those methods impact overall risk.
- Provide a summary of its collaboration with other large electrical corporations to benchmark the impacts of adopting consistent factors or indices that represent egress, suppression effectiveness, or realistic damage that adjust consequence scores (such as road constraint indices, terrain difficulty indices, or building loss factors). This summary must include discussions on the following topics:
    - Which factors and indices were evaluated;

[3] PG&E, Consequence Model Documentation, Page 7.

[4] SCE 2026-2028 Base WMP, R2, page 91.

[5] SCE 2026-2028 Base WMP, R2, pages 50 and 98.

[6] SCE 2026-2028 Base WMP, R2, pages 94 and 149.

- How the factors and indices evaluated are relevant to the conditions in California and how inclusion of these factors and indices better reflect reality;
- Minimum considerations or agreed-upon conventions established from collaboration with other electrical corporations for including the index or factor within consequence (i.e., egress analysis accounts for features such as road constraints, AFN, population density, etc.).
- Why the electrical corporations have not already captured such factors and indices through other implemented risk analyses;
- The impact that the new factors and indices have on overall utility risk and territory-wide relative distributions of risk, along with implications for mitigation or HFTD selection; and
- What changes were made or planned for each respective electrical corporations' risk modeling methodologies as a result of the collaboration, including changes to or added implementation of factors and indices, as well as any differences between electrical corporations' methodologies and why such differences persist.

Discussed in: Section 5.1.2.4 Consequence Scaling Factors

SCE-26B-06. Collaboration on Meteorological Scenarios

Summary: The weather scenarios used by the large electrical corporations and SMJUs in the calculation of probability and consequences vary significantly. The scenarios vary in the size of the historical record, how fire weather days are determined, and how the data is pruned for simulations.

Most of the large electrical corporations and SMJUs use a territory-wide set of weather days to run fire behavior models that estimate the consequence for each ignition point. In its 2026-2028 Base WMP, SCE describes how it only uses fire weather days relevant to an ignition point's climate zone to run wildfire behavior simulations, and those fire weather days are used to estimate a historical frequency of certain "fire behavior outcomes."[7] By combining the frequency of fire behavior outcome conditions with simulated consequences, SCE derives a quasi-probabilistic distribution of risk at each ignition point.[8] This method attempts to correlate a historical weather frequency to consequence, though the weather days and profiles may not be the same between the likelihood and consequence distributions.

Requirements: In its next Base WMP SCE must:

- Define the historical period and fire weather days used for developing meteorological scenarios. Describe criteria for selection and justify exclusion of years and days

[7] SCE 2026-2028 Base WMP, R2, pages 84-87.

[8] SCE 2026-2028 Base WMP, R2, pages 87-88.

outside of the selected dataset if that data would include historical extreme wind gusts or other extreme conditions. Demonstrate how the fire weather days used in the likelihood calculation are consistent with those used in the consequence calculation.

- Demonstrate how distributions developed using a Monte Carlo simulation method within the consequence risk model account for extreme weather events that are not included within the referenced historical period. For example, demonstrate how SCE's fire weather day approach produces a distribution of predicted fire size that aligns with historical distributions and includes significant tail risks.
- Collaborate with other electrical corporations via participation in RMWG to develop and summarize standardized extreme event scenarios, common calculation methods on the likelihood of occurrence, and a common approach to selecting weather scenarios (wind, moisture, fuels, etc.) to calculate consequences. Once developed, implement the standardized approaches into the WMP, or discuss why other approaches are taken if not using the agreed upon approaches.
- Evaluate and provide an analysis of the sensitivity of the total risk in its service territory, including the risk impact of extreme event scenarios. This sensitivity analysis must also evaluate the impact of mitigations on extreme events.

Discussed in: Sections 5.2.2.2 SCE-23B-04: Energy Safety Evaluation, 5.1.3, 5.1.2.2 Risk Calculation Updates, and 5.2.1.2 SCE-25U-01: Energy Safety Evaluation

SCE-26B-07. External Third-Party Risk Model Review

Summary: Section 5.6.1 of the WMP Guidelines requires electrical corporations to "document the procedures it uses to confirm that the data collected and processed for its risk assessment are accurate and comprehensive." Electrical corporations are required to include independent reviews of data collection and risk modeling approaches.

As documented in SCE's 2026-2028 base WMP, "SCE does not currently conduct external third-party independent reviews of data collected and risk models." While SCE provided details on obtaining and beginning an external review of its risk models in response to the Revision Notice, SCE must continue to demonstrate progress towards completion of its risk model review. External verification and validation are an important component of quality assurance and quality control of risk models.

Requirements: In its next Base WMP Update, SCE must:

- Provide an update on its progress for external third-party review. The progress update must include:
    - Milestones and timelines for completion, including progress for each milestone.
    - Copies of any completed report(s) covering the analysis completed by the independent reviewer.

- Descriptions of any findings identified by the independent reviewer and SCE's plan to address the findings, including timeline for SCE to address each finding.
  - If SCE declines to address a finding, SCE must explain its reason.
- Specific updates on the review of each of the following components of the risk model, as required in RN-SCE-26-03:
  - Burn probability
  - Fire weather days
  - Fire climate zones
  - Custom fuels and fuel adjustment processes
  - Incorporation of PEDS risk
  - Other components deemed necessary by the external third-party reviewed

- Provide a description of the scope of the review and the routine review schedule for future external third-party reviews of its risk models moving forward.

Discussed in: Sections 5.1.4.2 Independent Review of Risk Models, 5.3.2.2 RN-SCE-26-03: Energy Safety Evaluation

Wildfire Mitigation Strategy Development

SCE-26B-08. Incorporation of Ignition Risk into SCE's IWMS Framework

Summary: By focusing primarily on the consequence of an ignition rather than integrating the likelihood of an ignition to determine overall risk, SCE's IWMS framework may not be properly identifying and prioritizing mitigations based on the areas with highest overall utility risk.

Requirements: In its WMP Update SCE must provide a reconfigured IWMS framework or an updated decision-making process, and demonstrate that the framework or process:

- Properly accounts for ignition likelihood using overall utility risk scores and ranking risks.
- Chooses mitigations that are most appropriate for highest risk areas based on location-specific ignition risk drivers, and demonstrates such alignment between these mitigations and risk drivers.
- Prioritizes scheduling of planned mitigation implementation based on highest risk areas.

Discussed in: Section 6.1.2.1 Risk Model Outputs and the IWMS Framework

SCE-26B-09. Joint Study for Mitigation Activity Effectiveness Estimates

Summary: IOUs[9] have varying methodologies and results when evaluating mitigation initiative effectiveness. These differences include variations in available in-field data, which type of data is used to determine effectiveness, and how effectiveness is calculated. Since the 2023-2025 Base WMP, SCE has decreased its estimates for covered conductor effectiveness without providing adequate information about its reasoning and changed methodology.

Requirements: In its next Base WMP, SCE must collaborate with the IOUs to determine more consistent methodologies and evaluations of mitigation activity effectiveness. The IOUs must complete and provide a joint study and report by March 1, 2028, to the 2026-2028 Base WMP Docket (#2026-2028-Base-WMPs), and include that report in their subsequent Base WMP submission. The report must cover the following topics and summary:

- What type of data could be used to determine mitigation activity effectiveness. This topic must include discussions of the following:
    - How to share available data across IOUs,
    - Evaluation of all mitigation activities performed by IOUs listed out with the various current effectiveness estimations being used by IOUs, and discussion of shortcomings for any mitigation activities that do not currently have effectiveness values calculated,
    - Evaluation of the use of ignition vs. outage vs. other data for evaluating ignition risk, including a comparison of benefits and weaknesses,
    - Other ways to augment useable data for any limited data sets, including any shortcomings and potential remedies for increasing accuracy when using additional data, and
    - Evaluation of variations on methodologies used by IOUs for translating data into probability of ignition.
- How IOUs measure effectiveness of mitigation activities against various risk drivers. This topic must include reporting on completion of the following:
    - Synchronization among IOUs on ways to calculate effectiveness of various mitigation activities against various risk drivers, including benefits and weaknesses of IOUs' current approaches as a comparison,
    - Weighting of various risk drivers in terms of associated ignition and wildfire risk, and
    - Summation of various risk driver effectiveness values into overarching effectiveness value.

[9] Here the IOUs include SDG&E, PG&E, SCE, PacifiCorp, and Liberty Utilities.

- How mitigation activity effectiveness is used when determining mitigation prioritization and selection. This topic must include the following:
    - A discussion of the granularity in which effectiveness values are used during mitigation selection based on an evaluation of location-specific risk drivers, including how those drivers are selected and weighted for a given area, and
    - An analysis of how mitigation activity informs and impacts cost-benefit analysis, including a discussion and comparison of any differences on scaling across IOUs.
- How to evaluate mitigation activities in combination. This topic must include reporting on completion of the following:
    - Synchronization among IOUs on potential combinations to include when calculating joint effectiveness estimates,
    - Demonstration that electrical corporations have shared measured in-field effectiveness with one another and have integrated it into overall effectiveness calculations, and
    - Measuring overlapping and added benefit based on evaluation of ignition drivers impacted by various mitigations, including a comparison of IOUs' current efforts.

IOUs must also participate in Energy Safety-led activities, such as workshops or working group meetings, to further consider requirements around effectiveness.

Discussed in: Section 6.1.2.2 Effectiveness Calculation

Public Safety Power Shutoffs

SCE-26B-10. January 2025 Severe Weather and Wildfires PSPS Lessons Learned

Summary: SCE did not address any PSPS lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires, nor did SCE include a plan to incorporate PSPS lessons learned from the severe weather event and wildfires.

Requirements: In its next WMP submission, SCE must:

- Include any PSPS lessons learned from SCE's experiences during the January 2025 severe weather event and wildfires.
- Include a plan to incorporate any additional PSPS lessons learned from the severe weather event and wildfires.
- Update the associated WMP narrative to explain SCE's lessons learned during the January 2025 severe weather event and wildfires. PSPS lessons learned must address, at minimum:
    - How SCE plans to reduce the scope and duration of PSPS events,

  - Any changes to SCE's PSPS initiation criteria, and any changes in its outreach, mitigation activities, and other associated sections in the WMP with the implementation of those criteria,
  - If SCE's continued installation of RAR or RCS sectionalizing devices, as described in Section 8.2.1.6, had any impact on the frequency and duration of PSPS events since SCE began installing these devices,
  - Any weather forecasting gaps SCE identified in its analysis,
  - Changes SCE plans to incorporate or is incorporating for its PSPS notification procedures,
  - The effectiveness of SCE's guidelines and procedures during the January 2025 severe weather event and wildfires as described in Section 11.1.1, and
  - Any additional PSPS lessons learned.
- Any lessons learned from additional PSPS events in 2025.
- Any lessons learned from changes to its PSPS system that SCE made in 2025.

Discussed in: Section 7.1.1 January 2025 Severe Weather and Wildfires

Grid Design, Operations, and Maintenance

SCE-26B-11. Continuation of Grid Hardening Joint Studies

Summary: Large electrical corporations have continued to progress in prior areas for continued improvement through the Joint IOU Grid Hardening Working Group. In response to area for continued improvement SCE-25U-03, the electrical corporations submitted a comprehensive 2026–2028 update evaluating the effectiveness of key grid-hardening strategies, supported by field observations, degradation studies, and risk modeling results. To further mature and evolve the Grid Hardening Joint Study, Energy Safety has included inspection activities as part of the study. Inspection programs serve as the eyes on the ground, and drive grid hardening activities.

As the large electrical corporations have matured, their detailed distribution inspection programs have diverged. PG&E performs predominantly aerial inspections,[10] SCE performs combined aerial and ground inspections,[11] and SDG&E performs ground inspections. Given

[10] PG&E, Response to Data Request 05, Question 1; PG&E, Response to Data Request 19, Question 2.

[11] SCE, 2026-2028 Base WMP R2, Page 275.

that most electrical corporation assets are monitored through visual inspection[12, 13, 14] and only repaired or replaced when a condition is identified during an inspection,[15, 16, 17] it is critical that detailed distribution inspections effectively identify Level 1 and 2 conditions for remediation to minimize wildfire risk.

This collaborative effort must continue and be further strengthened through structured data sharing, targeted lessons learned, and evaluation of emerging technologies. Continued cross-utility analysis will ensure best practices are identified and implemented across jurisdictions, and that grid hardening investments are informed by robust cost-effectiveness, performance, and risk-reduction analyses.

Requirements: In its next Base WMP, SCE must continue collaboration with electrical corporations and provide an updated Joint IOU Grid Hardening Working Group Report. The electrical corporations must complete and provide a joint study and report by March 1, 2028, to the 2026-2028 Base WMP Docket (#2026-2028-Base-WMPs), and include that report in their subsequent Base WMP submission. The report must include:

- Undergrounding Applications: a joint evaluation of the wildfire and PSPS risk reduction of undergrounding efforts, inclusive of residual risks from service and secondary lines. This must include updated insights on supply chain issues, workforce management, permitting timelines, and new technologies (e.g., Ground-Level Distribution Systems, spider plow methods, fluid-free boring).
- Lessons Learned on Undergrounding Deployment: the incorporation of updated findings on labor and material usage, technological innovations, and cost management practices, particularly those that address high unit costs and scale variability.
- Protective Equipment and Device Settings: a continued evaluation of settings (e.g., downed conductor detection, partial voltage detection), including threshold variation across electrical corporations, effectiveness by equipment type, safety and reliability tradeoffs, and lessons learned.
- Technology Deployment: a joint analysis of REFCL. This must describe observed effectiveness and implementation feasibility across electrical corporations.

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[12] PG&E, 2026-2028 Base WMP R2, Pages 264-304.

[13] SCE, 2026-2028 Base WMP R2, Pages 293-298.

[14] SDG&E 2026-2028 Base WMP R2, Pages 206-207.

[15] PG&E, 2026-2028 Base WMP R2, Pages 264-304.

[16] SCE, 2026-2028 Base WMP R2, Pages 293-298.

[17] SDG&E, 2026-2028 Base WMP R2, Pages 206-207.

Additionally, the analysis must include updated insights on supply chain issues (if any), technological innovations, and current capital and maintenance costs of REFCL.

  - SCE must report results, protocols, construction practices, and cost estimates associated with its REFCL (Ground Fault Neutralizer and Grounding Conversion) pilots, which have reported zero ignitions post-implementation.
  - SCE must update its "Rapid Earth Fault Current Limiter (REFCL) Projects at Southern California Edison" (2022) report. Additionally, SCE must report on the impact of REFCL enablement on its PSPS events and thresholds, and SCE's approach to new substation projects and its approach to including or not including REFCL at the time of build.

- Distribution Detailed Inspection Benchmarking Study: a benchmarking study comparing SCE, PG&E and SDG&E's detailed inspection job-aids, training, procedures, and checklists. The large electric corporations must be able to provide all documentation created as part of this study upon request from Energy Safety.
  - As part of the benchmarking study, the large electrical corporations must, at a minimum:
    - Review and compare PG&E's Overhead Inspection Job Aid TD-2305M-JA02[18], PG&E's Electric Distribution Preventive Maintenance Manual TD-2305M[19], SCE's Distribution Inspection and Maintenance Program (DIMP)[20], SDG&E's detailed distribution inspection documentation, and any other documentation relevant to the execution of distribution detailed inspections.
    - Review and compare each large electrical corporation's detailed distribution inspector training programs, including any feedforward and feedback processes.
      - Evaluate how differences in each of the large electrical corporation's detailed inspection programs, including inspection procedures and inspector training, could result in differences in their find rates for level 1 and 2 conditions.
      - Evaluate how differences in each of the large electrical corporation's detailed inspection programs, including procedures and inspector training, could result in differences in due dates assigned to similar level 2 conditions.

[18] PG&E, TD-2305M-JA02 Overhead Assessment.

[19] PG&E, Electric Distribution Preventive Maintenance Manual TD-2305M.

[20] SCE, DIMP Manual.

- Host at least one joint meeting to discuss differences identified between the detailed distribution inspection programs, and reasons for the differences. Each large electrical corporation must be able to provide the agenda, documenting the topics of discussions, or other similar documentation for the meetings, if requested by Energy Safety.
- Include in the joint study report the results of the Distribution Detailed Inspection Benchmarking Study, including:
  - The differences among SDG&E's, PG&E's, and SCE's detailed distribution inspection job-aids, training, procedures, and checklists, as identified during its evaluation of the large electrical corporation's inspection programs and the reasons for the differences.
  - The methodology, result, and conclusions of the joint utility inspection benchmarking study.
  - The changes that SCE has made or plans to make to its detailed inspection job-aids, training, procedures, and checklists because of the benchmarking study.
    - If SCE elects to make no change to its detailed inspection portfolio after the benchmarking study, it must submit a white paper on its detailed distribution inspection program. The white paper must demonstrate the effectiveness of SDG&E's detailed inspections through conclusions supported by the benchmarking study.

SCE must demonstrate it is initiating the development of a trend analysis for its covered conductor program and sharing its structure, assumptions, and early findings with the Joint Working Group.

Discussed in: Sections 8.2.1.6 Installation of system automation equipment, and 8.3.1.2 SCE-25U-03: Energy Safety Evaluation

SCE-26B-12. De-energized Transmission Line Assessment and Removal

Summary: Large electrical corporations and SMJUs have de-energized but unremoved transmission lines within the HFTD for various operational reasons. These de-energized transmission line segments, especially those that run parallel to energized transmission lines, pose a potential wildfire risk due to inadvertent re-energization. Risk levels of these de-energized lines are dependent on grounding configurations, proximity to energized lines, and vegetation contact.

Large electrical corporations and SMJUs define, assess, and mitigate risk associated with these de-energized lines differently. Some electrical corporations have undertaken detailed circuit level or simulation-based studies to quantify risks, while others have not. Definitions of

terms such as "de-energized," and "abandoned" lines also vary across electrical corporations, further complicating comparisons and evaluations across electrical corporations.

SCE maintains 305 miles of de-energized transmission lines that run parallel and within 1,000 feet of energized transmission lines within its HFRA. SCE does not have a line-by-line risk analysis nor are any of these lines planned for removal in 2026 through 2028.[21]

To ensure large electrical corporations and SMJUs are managing wildfire risks from unremoved de-energized transmission lines, Energy Safety requires the electrical corporations to provide a terminology framework, provide a circuit level risk assessment, incorporate lessons learned from existing studies, provide a comprehensive mitigation strategy, and report its inspection and maintenance protocols for unremoved de-energized transmission lines in the HFTD.

Requirements: In its next WMP Update, SCE must:

- Collaborate with other large electrical corporations and SMJUs to submit a joint cross-utility terminology framework that establishes consistent definitions for the following:
    - De-energized transmission lines.
    - Abandoned transmission lines.
        - If the large electrical corporations' and SMJUs' definition for "abandoned transmission lines" is different from the definition in GO 95, Rule 31.6 for "permanently abandoned lines," the large electrical corporations and SMJUs must explain the difference between the two terms and their usage.
    - Any other types of transmission line designations, such as "idle," that the electrical corporation uses for de-energized or no longer in use transmission lines that have not yet been removed.
- Provide a Circuit Level Risk Assessment. For de-energized, abandoned, or other similarly situated transmission circuits that are located in the HFTD, SCE must:
    - Identify potential ignition hazards such as electrostatic or electromagnetic coupling with adjacent energized lines, identify the factors that affect the risk of these hazards causing ignitions, and provide a risk analysis; and
    - Specify whether the line is grounded (single-point, multi-point, ungrounded), and how grounding configuration affects induction risk.

[21] Response to Data Request 4.

- Incorporate Lessons Learned from Existing Studies. The methodology for the risk assessment must include, at minimum:
    - Evaluation of grounding configurations and their impacts on fault current magnitudes (as shown in SDG&E's study "Corridor Induction Risk Assessment of Out-of-Service Transmission Lines in SDG&E HFTD"[22] and PacifiCorp's "Idle Line Study"[23]);
    - Spatial distance between energized and de-energized lines and the orientation of line configurations (horizontal vs. vertical stacking); and
    - Sensitivity analysis on variables such as fault location, fault resistance, and line length, especially under fault-current scenarios.
- Provide a Comprehensive Mitigation Strategy. If applicable, each large electrical corporation and SMJU must provide an existing plan or develop a new plan that includes:
    - Identification of de-energized, abandoned, or other similarly situated transmission lines;
    - A decision-making process for the removal, modification of grounding configuration, or other mitigation of de-energized, abandoned, or other similarly situated transmission lines based on ignition risk; and
        - If identified de-energized transmission lines are subject for future use, describe its planned use, its grounding-configuration, and any intermittent mitigation strategies.
    - Timeline for mitigation actions, including short-term and long-term activities.
- Report Inspection and Maintenance Protocols. SCE must:
    - Describe its inspection and maintenance process for de-energized, abandoned, or other similarly situated transmission circuits in the HFTD. This description must highlight any differences between the inspection and maintenance of energized versus de-energized, abandoned, or other similarly situated transmission circuits.
        - For each de-energized, abandoned, or other similarly situated transmission circuit in the HFTD, SCE must list the frequency and type of asset and vegetation inspections performed, the remediation

[22] Response to Data Request 10, Attachment 1.

[23] PacifiCorp, Idle Line Study. Attach OEIS 7.6-1

timeframe for each priority of condition identified during inspection, and any routine maintenance performed.

- For any de-energized, abandoned, or other similarly situated transmission circuit in the HFTD that is not subject to the same frequency and/or type of inspection, condition remediation timeframe, or routine maintenance work as similar, energized circuits, SCE must provide its decision-making process for reaching this determination.

- Outline any planned changes to the inspection and maintenance of de-energized, abandoned, or other similarly situated transmission circuits in the HFTD.

Discussed in: Section 8.2.1.7 Line removal in the HFTD

SCE-26B-13. Forward-looking Pole Replacement Strategy

Summary: SCE's current approach to both distribution and transmission pole replacements and reinforcements is primarily reactive in nature, where SCE performs replacements or reinforcements after it finds degraded conditions. Moreover, SCE does not track or categorize pole replacements and reinforcements as a standalone activity, instead categorizing these activities under broader asset management programs without discrete activity targets. Energy Safety requires SCE to transition these programs to a more forward-looking strategy. This will help reduce ignition risk on SCE's system and decrease work orders in areas with high fire risk.

Requirements: In its next Base WMP, SCE must:

- Identify a Tracking ID and set annual targets for its distribution pole replacements and reinforcements activity in the HFTD.
- Identify a Tracking ID and set annual targets for its transmission pole/tower replacements and reinforcements activity in the HFTD.
- Provide a backlog reduction plan for "Pole-Replace" work orders with "Ignition Risk" in HFTDs, including a timeline and prioritization based on risk tier and severity.
- Provide a future replacement prioritization strategies and historical trend analysis of pole failure-related outages and ignitions that informed the strategies. The analysis must identify drivers of pole failure, and discuss what can and cannot be identified through inspection programs.

Discussed in: Section 8.2.1.3 Transmission and Distribution Pole Replacements and Reinforcements

SCE-26B-14. Analysis and Validation of High-Impedance (Hi-Z) Relay Settings

Summary: SCE uses several PEDS technology to detect faults and shut off electricity flow. Hi-Z, unlike other technologies used by SCE, increases sensitivity to detect low-current faults

that traditional overcurrent elements may not detect. SCE must present findings from its field evaluation and validation of Hi-Z efficacy, with respect to wildfire-risk reduction and potential impacts to system reliability.

Requirements: In its next Base WMP, SCE must:

- Track and report the number and characteristics of high-impedance faults, including wire-down events not resulting in automatic de-energization, within this WMP cycle. SCE must differentiate faults detected on bare wire, covered conductor, and distribution voltage level.
    - SCE must perform a trend analysis compared to its historical data, up to 2023.
- Provide a comprehensive field validation report for Hi-Z relays. This report must include metrics such as detection accuracy, fault types detected, nuisance trip rates (if any), and comparative analysis between Hi-Z-detected faults and conventional protection schemes.
- Discuss the changes it plans to make to its Hi-Z operational mode (alarm-only vs. trip-enabled) based on findings, with a timeline for any proposed deployment expansion or adjustments.
    - SCE must discuss how Hi-Z and related settings or technologies will lower the likelihood of a wire down event not automatically de-energized, for both bare wire and covered conductor.

Discussed in: Section 8.2.6 Grid Operations and Procedures

SCE-26B-15. Distribution Splice Failure Tracking

Summary: In its 2026-2028 Base WMP, SCE states that splice failures are not typically tracked and are instead recorded to the conductor or structure.[24] From 2019 to 2024, SCE recorded zero splice failures and 4,724 conductor failures.[25] Without an accurate record of splice failures, it is difficult to determine if maintenance or inspection adjustments focused on preventing splice failures are warranted to improve SCE's distribution system health. A more granular record of failures and ignitions will provide increased visibility of the risks presented by each of the individual equipment types.

Requirements: In its next Base WMP, SCE must detail a process to record splice failures separately from conductor failures.

Discussed in: Section 8.3.3.2 SCE-25U-05: Energy Safety Evaluation

[24] SCE 2026-2028 Base WMP, R2, page 301.

[25] SCE 2026-2028 Base WMP, R2, page 301.

SCE-26B-16. Transmission Proactive Splice Shunting Update

Summary: SCE demonstrated positive progress by establishing a proactive splice shunting program. SCE provided a target for 2026, but stated that it plans to develop shunt replacement targets for 2027 and 2028 based on learnings from 2026.

Requirements: In its next Base WMP, SCE must:

- Discuss lessons learned from the shunting performed in 2026,
- Provide an evaluation of its splice shunting capacity, including the number of splices that it determines it can shunt annually, an explanation of how SCE determined this number, an identification of the constraints that limit the number of shunts that can be installed annually, and a plan to mitigate the constraints where feasible,
- Provide an estimate of the total remaining transmission splices SCE expects require shunting over the lifetime of this program, and
- Set shunt targets that demonstrate consideration of SCE's splice shunting capacity and the number of splices not yet shunted in SCE's Severe Risk and High Consequence Areas.

Discussed in: Sections 8.2.2.6 Discontinued Transmission Conductor and Splice Assessment and 8.3.3.2 SCE-25U-05: Energy Safety Evaluation

SCE-26B-17. Coordination of Protective Device Settings on the Zanja Supply Line

Summary: SCE's supply line from the Zanja Substation to BVES Radford Circuit has reported challenges achieving recloser coordination.[26] These limitations may lead to reliability and outage issues. Energy Safety requires SCE to work with BVES to resolve these issues to reduce the risk of faults and ensure wildfire risk mitigation is properly implemented.

Requirements: In its next WMP Update, SCE must:

- Provide a detailed plan for addressing protective device settings coordination between SCE and BVES on the Zanja supply line.
- Include proposed protection scheme changes, coordination studies, and expected risk reduction outcomes.
- Submit documented communication and collaboration efforts with BVES, including milestones and progress reports.
- Include timelines for implementing protective device coordination improvements.

Discussed in: Section 8.2.1.1 Covered conductor installation

[26] BVES, Response to Data Request 4.

Vegetation Management and Inspections

SCE-26B-18. Implementation of Enhanced Clearances Joint Study Recommendation

Summary: The results of the Effectiveness of Enhanced Clearances Joint Study include a list of recommendations for SCE to improve its data collection and vegetation management practices.

Requirements: In its next Base WMP, for each recommendation in *Table SCE D-03: Plan for Implementation of Recommendations from Third-Party Study and White Paper*,[27] SCE must demonstrate that it has implemented the recommendations by providing, at a minimum, documentation such as updated procedures documents, data collection forms, training materials, or other relevant documentation. SCE must be ready to provide additional documentation upon request by Energy Safety.

Discussed in: Section 9.3.2.2 SCE-23B-17: Energy Safety Evaluation

SCE-26B-19. Quantifying Enhanced Clearances Effectiveness

Summary: In its response to SCE-23B-17, SCE stated that the data used in the Effectiveness of Enhanced Clearances Joint Study did not allow for analysis of the enhanced clearances combined with additional grid hardening measures.

Requirements: In its next Base WMP, SCE must report on its continued evaluation of the effectiveness of enhanced clearances. This report must include continued analysis for the following:

- Effectiveness of enhanced clearances on contact from vegetation ignition likelihood.
- Effectiveness of enhanced clearances on PEDS outage likelihood.
- Effectiveness of enhanced clearances on PSPS likelihood.
- Effectiveness of non-enhanced clearances on PEDS outage likelihood.
- Effectiveness of non-enhanced clearances on PSPS likelihood.
- The effectiveness of enhanced clearances in combination with other mitigations including, but not limited to: overhead system hardening (covered conductor and traditional hardening), pole and hardware replacement, situational awareness mitigations, and equipment settings to reduce wildfire risk (as defined in Section 8.7.1 of the WMP Guidelines).[28] This evaluation must include a comparison of cost-benefit ratios for each combination and how the combinations impact effectiveness for

[27] SCE 2026-2028 Base WMP, R2, pages 602-604.

[28] WMP Guidelines, pages 99-101.

contact from vegetation ignition likelihood, PEDS outage likelihood, and PSPS likelihood.

- Barriers to making these calculations, limitations of these calculations, and assumptions required to make these calculations. This must also include,
    - A plan to overcome the described barriers, limitations, and assumptions for future iterations of these calculations.

Discussed in: Section 9.3.2.2 SCE-23B-17: Energy Safety Evaluation

Lessons Learned

SCE-26B-20. January 2025 Severe Weather and Wildfires Lessons Learned

Summary: SCE did not include any lessons learned from the January 2025 severe weather event and wildfires, nor did it include a plan for incorporating lessons learned from them.

Requirements: In its next WMP submission, in addition to the PSPS lessons learned reported in area for continued improvement SCE-26B-10, SCE must:

- Update *Table 13-1: Lessons Learned*, with any lessons learned from SCE's experiences in the January 2025 severe weather event and wildfires.
- Update the associated WMP narrative to explain any lessons learned from SCE's experiences in the January 2025 severe weather event and wildfires.

Discussed in: Section 13.1.1 January 2025 Severe Weather and Wildfires

Appendix D. Public Comments

Public Comments on the SCE 2026-2028 Base WMP

Energy Safety invited members of the public to provide comments on the [EC] 2026-2028 Base WMP. The following individuals and organizations submitted comments:

- Green Power Institute (GPI)
- Mussey Grade Road Alliance (MGRA)
- Rural County Representatives of California (RCRC)
- Resilient Structures (RS)
- Southern California Edison Company (SCE) – Reply Comments only

Comments received on the SCE 2026-2028 Base WMP can be viewed in the 2026-2028 Base WMP (2026-2028-Base-WMPs) docket.

Energy Safety concurred with and incorporated the following comments into this Decision for the SCE 2026-2028 Base WMP:

- GPI commented that SCE should continue to benchmark with other IOUs on overhead mitigation, inspection, and grid monitoring technologies, noting that this benchmarking will continue to advance SCE's already robust overhead mitigation packages. GPI encouraged SCE to continue exchanging in-house knowledge of overhead system design and pilots with the other IOUs and SMJUs.
    - Energy Safety incorporated GPI's recommendation that SCE exchange information with the other IOUs and SMJUs into the Continuation of Grid Hardening Joint Studies area for continued improvement.
- MGRA commented that SCE should further investigate the feasibility of further raising thresholds on circuits where both covered conductor and REFCL are installed.
    - Energy Safety incorporated this recommendation into the Continuation of Grid Hardening Joint Studies area for continued improvement.
- MGRA commented that "SCE should be required to verify that the sum total of risk events provided in its QDRs match the values in its database, and to provide any "true up" deltas annually, in order to ensure Energy Safety has a full and accurate record, and that all stakeholders have access to accurate data. As understanding covered conductor risk reduction efficiency is a key part of wildfire safety, SCE should be required to explain bare wire ignition rate calculations that it has provided in the past and differentiate these from those it provided in its most recent data request response. Energy Safety should request that SCE provide information regarding how

many miles of its "Severe Risk Areas" (SRA) will be mitigated by the end of this WMP cycle, when SCE plans to ramp down its covered conductor program. High wind areas and areas with egress constraints should be given the highest priority for hardening, potentially including undergrounding."

  - Energy Safety required SCE to provide its SRA miles in its response to data request 6, which SCE provided on June 11, 2025.[29] Energy Safety included discussion of targeted undergrounding in high wind areas in Section 8.2.1.2 of its Draft Decision.

- MGRA commented that there appears to be "serious issues" with SCE's PSPS notifications process, especially relative to PG&E and SDG&E.[30] MGRA recommended that Energy Safety "require SCE to report on how it will improve its notification performance."[31]
  - Energy Safety incorporated this recommendation into area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned.
- RCRC commented that had PSPS notifications concerns, and recommended that SCE publish average restoration times for Fast Curve outages, including a comparison of performance on circuits with covered conductor versus those with bare wire, as well as CAIDI-equivalent metrics."[32]
  - Energy Safety added requirements for SCE to re-evaluate its PSPS notifications system in area for continued improvement SCE-26B-10: January 2025 Severe Weather and Wildfires PSPS Lessons Learned.

[29] https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=58671&shareable=true.

[30] MGRA Comments, page 38.

[31] MGRA Comments, page 38.

[32] RCRC Comments, page 2.

Public Comments on the SCE Revision Notice Response and Revised 2026-2028 Base WMP

Energy Safety published a Revision Notice for SCE on August 15, 2025.[33] Opening Comments on the Revision Notice were due September 30, 2025. Reply Comments on the Revision Notice were due October 10, 2025.

Energy Safety did not receive any opening or reply comments on its Revision Notice for SCE.

[33] https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=59208&shareable=true.

Members of Public Comments on the Draft Decision for the SCE 2026-2028 Base WMP

This appendix will contain a summary of members of the public comments on Energy Safety's draft Decision for the SCE 2026-2028 Base WMP.

Appendix E.
Maturity Survey Results

The Energy Safety Electrical Corporation Wildfire Mitigation Maturity Model (Maturity Model) and 2025 Electrical Corporation Wildfire Mitigation Maturity Survey (Maturity Survey) together provide a quantitative method to assess electrical corporation wildfire risk mitigation capabilities and examine how electrical corporations propose to continuously improve in key areas of their WMP.

The Maturity Model consists of 38 individual capabilities, each relevant to an electrical corporation's ability to mitigate wildfire and PSPS risk within its service territory. Maturity levels range from 0 (below minimum requirements) to 4 (beyond best practice). The 38 capabilities are aggregated into seven categories. The seven categories are:

A. Risk Assessment and Mitigation Strategy
B. Situational Awareness and Forecasting
C. Grid Design, Inspections, and Maintenance
D. Vegetation Management and Inspections
E. Grid Operations and Protocols
F. Emergency Preparedness
G. Community Outreach and Engagement

SCE's responses to the Maturity Survey, listed by category, are depicted in the figure below.

Figure E-1. SCE 2025 Responses to the Maturity Survey

Capability Scores by Year and Category for SCE

2026-2028 Cycle

Updated as of 08/18/2025.

		1. Capability				2. Capability				3. Capability				4. Capability				5. Capability				6. Capability			
		2025	2026	2027	2028	2025	2026	2027	2028	2025	2026	2027	2028	2025	2026	2027	2028	2025	2026	2027	2028	2025	2026	2027	2028
A. Risk Assessment and Mitigation Strategy		1. Statistical weather, climate, and wildfire modeling				2. Calculation of wildfire and PSPS hazard and exposure to societal values				3. Calculation of community vulnerability to wildfire and PSPS				4. Calculation of risk and risk components				5. Risk event tracking and integration of lessons learned				6. Risk-informed wildfire mitigation strategy			
	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0	3.6	3.6	3.6	3.6	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9
B. Situational Awareness and Forecasting		7. Ignition likelihood estimation				8. Weather forecasting ability				9. Wildfire spread forecasting				10. Data collection for near-real-time conditions				11. Wildfire detection and alarm systems				12. Centralized monitoring of real-time conditions			
	Minimum of Sub-Cap.	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0	4.0
	Average of Sub-Cap.	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.2	3.2	3.2	3.2	3.6	3.6	3.6	3.6	1.3	1.3	1.3	1.3	4.0	4.0	4.0	4.0
C. Grid Design, Inspections, and Maintenance		13. Asset inventory and condition database				14. Asset inspections				15. Asset maintenance and repair				16. Grid design and resiliency				17. Asset and grid personnel training and quality							
	Minimum of Sub-Cap.	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0				
	Average of Sub-Cap.	3.8	3.8	3.8	3.8	4.0	4.0	4.0	4.0	2.5	2.5	2.5	2.5	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8				
D. Vegetation Management and Inspections		18. Vegetation inventory				19. Vegetation inspections				20. Vegetation treatment				21. Vegetation personnel training and quality				22. Best Management Practices for Transmission Rights-Of-Ways (ROWs)							
	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	2.0				
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.7	3.7	3.7	3.7	4.0	4.0	4.0	4.0	1.5	1.5	1.5	2.3				
E. Grid Operations and Protocols		23. Protective equipment and device settings				24. Incorporation of ignition risk factors in grid control				25. PSPS operating model				26. Protocols for PSPS re-energization				27. Ignition prevention and suppression							
	Minimum of Sub-Cap.	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
	Average of Sub-Cap.	3.7	3.7	3.7	3.7	3.2	3.2	3.2	3.2	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
F. Emergency Preparedness		28. Wildfire and PSPS emergency & disaster preparedness plan				29. Collaboration and coordination with public safety partners				30. Public emergency communication strategy				31. Preparedness and planning for service restoration				32. Customer support in wildfire and PSPS emergencies				33. Learning after wildfires and PSPS events			
	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0	1.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.8	3.8	3.8	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
G. Community Outreach and Engagement		34. Public outreach and education awareness				35. Public engagement in electrical corporation wildfire mitigation planning				36. Engagement with AFN and socially vulnerable populations				37. Collaboration on local wildfire mitigation planning				38. Cooperation and best practice sharing with other electrical corporations							
	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				

Appendix F. Definitions

Unless otherwise expressly stated, the following words and terms, for the purposes of this Decision, have the meanings shown in this chapter.

Terms Defined in Other Codes

Where terms are not defined in this Decision and are defined in the Government Code, Public Utilities Code, or Public Resources Code, such terms have the meanings ascribed to them in those codes.

Terms Not Defined

Where terms are not defined through the methods authorized by this section, such terms have ordinarily accepted meanings such as the context implies.

Definition of Terms

Term	Definition
Access and functional needs population (AFN)	Individuals, including, but not limited to, those who have developmental or intellectual disabilities, physical disabilities, chronic conditions, or injuries; who have limited English proficiency or are non-English speaking; who are older adults, children, or people living in institutionalized settings; or who are low income, homeless, or transportation disadvantaged, including, but not limited to, those who are dependent on public transit or are pregnant. (Gov. Code, § 8593.3(f)(1).)
Asset (utility)	Electric lines, equipment, or supporting hardware.
Benchmarking	A comparison between one electrical corporation's protocols, technologies used, or mitigations implemented, and other electrical corporations' similar endeavors.
Burn likelihood	The likelihood that a wildfire with an ignition point will burn at a specific location within the service territory based on a probabilistic set of weather profiles, vegetation, and topography.

Term	Definition
Catastrophic wildfire	A fire that caused at least one death, damaged over 500 structures, or burned over 5,000 acres.
Circuit miles	The total length in miles of separate transmission and/or distribution circuits, regardless of the number of conductors used per circuit (i.e., different phases).
Circuit segment	A specific portion of an electrical circuit that can be separated or disconnected from the rest of the system without affecting the operation of other parts of the network. This isolation is typically achieved using switches, circuit breakers, or other control mechanisms.
Consequence	The adverse effects from an event, considering the hazard intensity, community exposure, and local vulnerability.
Contact from object ignition likelihood	The likelihood that a non-vegetative object (such as a balloon or vehicle) will contact utility-owned equipment and result in an ignition.
Contact from vegetation likelihood of ignition	The likelihood that vegetation will contact utility-owned equipment and result in an ignition.
Contractor	Any individual in the temporary and/or indirect employ of the electrical corporation whose limited hours and/or time-bound term of employment are not considered “full-time” for tax and/or any other purposes.
Critical facilities and infrastructure	Facilities and infrastructure that are essential to public safety and that require additional assistance and advance planning to ensure resiliency during PSPS events. These include the following: Emergency services sector: • Police stations • Fire stations • Emergency operations centers

Term	Definition
	• Public safety answering points (e.g., 9-1-1 emergency services) Government facilities sector: • Schools • Jails and prisons Health care and public health sector: • Public health departments • Medical facilities, including hospitals, skilled nursing facilities, nursing homes, blood banks, health care facilities, dialysis centers, and hospice facilities (excluding doctors' offices and other non-essential medical facilities) Energy sector: • Public and private utility facilities vital to maintaining or restoring normal service, including, but not limited to, interconnected publicly owned electrical corporations and electric cooperatives • Water and wastewater systems sector: • Facilities associated with provision of drinking water or processing of wastewater, including facilities that pump, divert, transport, store, treat, and deliver water or wastewater Communications sector: • Communication carrier infrastructure, including selective routers, central offices, head ends, cellular switches, remote terminals, and cellular sites Chemical sector: • Facilities associated with manufacturing, maintaining, or distributing hazardous materials and chemicals (including Category N-Customers as defined in D.01-06-085) Transportation sector:

Term	Definition
	• Facilities associated with transportation for civilian and military purposes: automotive, rail, aviation, maritime, or major public transportation (D.19-05-042 and D.20-05-051)
Customer hours	Total number of customers, multiplied by average number of hours (e.g., of power outage).
Dead fuel moisture	The moisture content of dead organic fuels, expressed as a percentage of the oven dry weight of the sample, that is controlled entirely by exposure to environmental conditions.
Detailed inspection	In accordance with General Order (GO) 165, an inspection where individual pieces of equipment and structures are carefully examined, visually and through routine diagnostic testing, as appropriate, and (if practical and if useful information can be so gathered) opened, and the condition of each is rated and recorded.
Disaster	A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability, and capacity, leading to one or more of the following: human, material, economic, and environmental losses and impacts. The effect of the disaster can be immediate and localized but is often widespread and could last a long time. The effect may test or exceed the capacity of a community or society to cope using its own resources. Therefore, it may require assistance from external sources, which could include neighboring jurisdictions or those at the national or international levels. (United Nations Office for Disaster Risk Reduction [UNDRR].)
Discussion-based exercise	Exercise used to familiarize participants with current plans, policies, agreements, and procedures or to develop new plans, policies, agreements, and procedures. Often includes seminars, workshops, tabletop exercises, and games.
Electrical corporation	Every corporation or person owning, controlling, operating, or managing any electric plant for compensation within California,

Term	Definition
	except where the producer generates electricity on or distributes it through private property solely for its own use or the use of its tenants and not for sale or transmission to others.
Emergency	Any incident, whether natural, technological, or human caused, that requires responsive action to protect life or property but does not result in serious disruption of the functioning of a community or society. (FEMA/UNDRR.)
Enhanced inspection	Inspection whose frequency and thoroughness exceed the requirements of a detailed inspection, particularly if driven by risk calculations.
Equipment caused ignition likelihood	The likelihood that utility-owned equipment will cause an ignition through either normal operation (such as arcing) or failure.
Exercise	An instrument to train for, assess, practice, and improve performance in prevention, protection, response, and recovery capabilities in a risk-free environment. (FEMA.)
Exposure	The presence of people, infrastructure, livelihoods, environmental services and resources, and other high-value assets in places that could be adversely affected by a hazard.
Fire hazard index	A numerical rating for specific fuel types, indicating the relative probability of fires starting and spreading, and the probable degree of resistance to control; similar to burning index, but without effects of wind speed.[34]
Fire potential index (FPI)	Landscape scale index used as a proxy for assessing real-time risk of a wildfire under current and forecasted weather conditions.
Fire season	The time of year when wildfires are most likely for a given geographic region due to historical weather conditions, vegetative characteristics, and impacts of climate change. Each electrical corporation defines the fire season(s) across its service

[34] Glossary of Wildland Fire.

Term	Definition
	territory based on a recognized fire agency definition for the specific region(s) in California.
Fireline intensity	The rate of heat release per unit time per unit length of fire front. Numerically, it is the product of the heat yield, the quantity of fuel consumed in the fire front, and the rate of spread.[35]
Frequency	The anticipated number of occurrences of an event or hazard over time.
Frequent PSPS events	Three or more PSPS events per calendar year per line circuit.
Fuel continuity	The degree or extent of continuous or uninterrupted distribution of fuel particles in a fuel bed thus affecting a fire's ability to sustain combustion and spread. This applies to aerial fuels as well as surface fuels.[36]
Fuel density	Mass of fuel (vegetation) per area that could combust in a wildfire.
Fuel management	Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire, in support of land management objectives.[37]
Fuel moisture content	Amount of moisture in a given mass of fuel (vegetation), measured as a percentage of its dry weight.
Full-time employee (FTE)	Any individual in the ongoing and/or direct employ of the electrical corporation whose hours and/or term of employment are considered “full-time” for tax and/or any other purposes.
GO 95 nonconformance	Condition of a utility asset that does not meet standards established by GO 95.

[35] Glossary of Wildland Fire.

[36] Glossary of Wildland Fire.

[37] Glossary of Wildland Fire.

Term	Definition
Grid hardening	Actions (such as equipment upgrades, maintenance, and planning for more resilient infrastructure) taken in response to the risk of undesirable events (such as outages) or undesirable conditions of the electrical system to reduce or mitigate those events and conditions, informed by an assessment of the relevant risk drivers or factors.
Grid topology	General design of an electric grid, whether looped or radial, with consequences for reliability and ability to support PSPS (e.g., ability to deliver electricity from an additional source).
Hazard	A condition, situation, or behavior that presents the potential for harm or damage to people, property, the environment, or other valued resources.
Hazard tree	A tree that is, or has portions that are, dead, dying, rotten, diseased, or otherwise has a structural defect that may fail in whole or in part and damage utility facilities should it fail
High Fire Threat District (HFTD)	Areas of the state designated by the CPUC as having elevated wildfire risk, where each utility must take additional action (per GO 95, GO 165, and GO 166) to mitigate wildfire risk. (D.17-01-009.)
High Fire Risk Area (HFRA)	Areas that the electrical corporation has deemed at high risk from wildfire, independent of HFTD designation.
Highly rural region	Area with a population of less than seven persons per square mile, as determined by the United States Bureau of the Census. For purposes of the WMP, “area” must be defined as a census tract.
High-risk species	Species of vegetation that (1) have a higher risk of either coming into contact with powerlines or causing an outage or ignition, or (2) are easily ignitable and within close proximity to potential arcing, sparks, and/or other utility equipment thermal failures. The status of species as “high-risk” must be a function of species-specific characteristics, including growth rate; failure rates of limbs, trunk, and/or roots (as compared to other species); height at maturity; flammability; and vulnerability to disease or insects.

Term	Definition
High wind warning (HWW)	Level of wind risk from weather conditions, as declared by the National Weather Service (NWS). For historical NWS data, refer to the Iowa State University archive of NWS watches/warnings.
HWW overhead (OH) circuit mile day	Sum of OH circuit miles of utility grid subject to a HWW each day within a given time period, calculated as the number of OH circuit miles under a HWW multiplied by the number of days those miles are under said HWW. For example, if 100 OH circuit miles are under a HWW for one day, and 10 of those miles are under the HWW for an additional day, then the total HWW OH circuit mile days would be 110.
Ignition likelihood	The total anticipated annualized number of ignitions resulting from electrical corporation-owned assets at each location in the electrical corporation's service territory. This considers probabilistic weather conditions, type and age of equipment, and potential contact of vegetation and other objects with electrical corporation assets. This should include the use of any method used to reduce the likelihood of ignition. For example, the use of protective equipment and device settings (PEDS) to reduce the likelihood of an ignition upon an initiating event.
Incident command system (ICS)	A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.
Initiative activity	See mitigation activity.
Initiative construction standards	The standard specifications, special provisions, standards of practice, standard material and construction specifications, construction protocols, and construction methods that an electrical corporation applies to activities undertaken by the electrical corporation pursuant to a WMP initiative in a given compliance period.
Level 1 finding	In accordance with GO 95, an immediate safety and/or reliability risk with high probability for significant impact.

Term	Definition
Level 2 finding	In accordance with GO 95, a variable safety and/or reliability risk (non-immediate and with high to low probability for significant impact).
Level 3 finding	In accordance with GO 95, an acceptable safety and/or reliability risk.
Limited English proficiency (LEP) population	Population with limited English working proficiency based on the International Language Roundtable scale.
Line miles	The number of miles of transmission and/or distribution conductors, including the length of each phase and parallel conductor segment.
Live fuel moisture content	Moisture content within living vegetation, which can retain water longer than dead fuel.
Locally relevant	In disaster risk management, generally understood as the cope at which disaster risk strategies and initiatives are considered the most effective at achieving desired outcomes. This tends to be the level closest to impacting residents and communities, reducing existing risks, and building capacity, knowledge, and normative support. Locally relevant scales, conditions, and perspectives depend on the context of application.
Match-drop simulation	Wildfire simulation method forecasting propagation and consequence/impact based on an arbitrary ignition.
Memorandum of Agreement (MOA)	A document of agreement between two or more agencies establishing reciprocal assistance to be provided upon request (and if available from the supplying agency) and laying out the guidelines under which this assistance will operate. It can also be a cooperative document in which parties agree to work together on an agreed-upon project or meet an agreed objective.
Mitigation	Undertakings to reduce the loss of life and property from natural and/or human-caused disasters by avoiding or lessening the impact of a disaster and providing value to the public by creating

Term	Definition
	safer communities. Encompasses mitigation categories, mitigation initiatives, and mitigation activities within the WMP.
Mitigation activity	A measure that contributes to or accomplishes a mitigation initiative designed to reduce the consequences and/or probability of wildfire or outage event. For example, covered conductor installation is a mitigation activity under the mitigation initiative of Grid Design and System Hardening.
Mitigation category	The highest subset in the WMP mitigation hierarchy. There are five Mitigation Categories in total: Grid Design, Operations, and Maintenance; Vegetation Management and Inspections; Situational Awareness and Forecasting; Emergency Preparedness; and Enterprise Systems. Contains mitigation initiatives and any subsequent mitigation activities.
Mitigation initiative	Efforts within a mitigation category either proposed or in process, designed to reduce the consequences and/or probability of wildfire or outage event. For example, Asset Inspection is a mitigation initiative under the mitigation category of Grid Design, Operations, and Maintenance.
Model uncertainty	The amount by which a calculated value might differ from the true value when the input parameters are known (i.e., limitation of the model itself based on assumptions).[38]
Mutual aid	Voluntary aid and assistance by the provision of services and facilities, including but not limited to electrical corporations, communication, and transportation. Mutual aid is intended to provide adequate resources, facilities, and other support to an electrical corporation whenever its own resources prove inadequate to cope with a given situation.
National Incident Management System (NIMS)	A systematic, proactive approach to guide all levels of government, nongovernment organizations, and the private sector to work together to prevent, protect against, mitigate, respond to, and recover from the effects of incidents. NIMS

[38] Adapted from: Substantiating a Fire Model for a Given Application.

Term	Definition
	provides stakeholders across the whole community with the shared vocabulary, systems, and processes to successfully deliver the capabilities described in the National Preparedness System. NIMS provides a consistent foundation for dealing with all incidents, ranging from daily occurrences to incidents requiring a coordinated federal response.
Operations-based exercise	Type of exercise that validates plans, policies, agreements, and procedures; clarifies roles and responsibilities; and identifies resource gaps in an operational environment. Often includes drills, functional exercises (FEs), and full-scale exercises (FSEs).
Outage program risk	The measure of reliability impacts from wildfire mitigation related outages at a given location.
Overall utility risk	The comprehensive risk due to both wildfire and PSPS incidents across a utility's territory; the aggregate potential of adverse impacts to people, property, critical infrastructure, or other valued assets in society.
Overall utility risk, PSPS risk	See Outage program risk.
Parameter uncertainty	The amount by which a calculated value might differ from the true value based on unknown input parameters. (Adapted from Society of Fire Protection Engineers [SFPE] guidance.)
Patrol inspection	In accordance with GO 165, a simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.
Performance metric	A quantifiable measurement that is used by an electrical corporation to indicate the extent to which its WMP is driving performance outcomes.
Population density	Population density is calculated using the American Community Survey (ACS) one-year estimate for the corresponding year or, for

Term	Definition
	years with no such ACS estimate available, the estimate for the immediately preceding year.
Preparedness	A continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response. Within the NIMS, preparedness focuses on planning, procedures and protocols, training and exercises, personnel qualification and certification, and equipment certification.
Priority essential services	Critical first responders, public safety partners, critical facilities and infrastructure, operators of telecommunications infrastructure, and water electrical corporations/agencies.
Property	Private and public property, buildings and structures, infrastructure, and other items of value that may be destroyed by wildfire, including both third-party property and utility assets.
Protective equipment and device settings (PEDS)	The electrical corporation's procedures for adjusting the sensitivity of grid elements to reduce wildfire risk, other than automatic reclosers (such as circuit breakers, switches, etc.). For example, PG&E's "Enhanced Powerline Safety Settings" (EPSS).
PEDS outage consequence	The total anticipated adverse effects from an outage occurring while increased sensitivity settings on a protective device are enabled at a specific location, including reliability and associated safety impacts.
PEDS outage exposure potential	The potential physical, social, or economic impact of an outage occurring when PEDS are enabled on people, property, critical infrastructure, livelihoods, health, local economies, and other high-value assets.
PEDS outage likelihood	The likelihood of an outage occurring while increased sensitivity settings on a protective device are enabled at a specific location given a probabilistic set of environmental conditions.
PEDS outage risk	The total expected annualized impacts from PEDS enablement at a specific location.

Term	Definition
PEDS outage vulnerability	The susceptibility of people or a community to adverse effects of an outage occurring when PEDS are enabled, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the related adverse effects (e.g., high AFN population, poor energy resiliency, low socioeconomics).
PSPS consequence	The total anticipated adverse effects of a PSPS for a community. This considers the PSPS exposure potential and inherent PSPS vulnerabilities of communities at risk.
PSPS event	The period from notification of the first public safety partner of a planned public safety PSPS to re-energization of the final customer.
PSPS exposure potential	The potential physical, social, or economic impact of a PSPS event on people, property, critical infrastructure, livelihoods, health, local economies, and other high-value assets.
PSPS likelihood	The likelihood of an electrical corporation requiring a PSPS given a probabilistic set of environmental conditions.
PSPS risk	The total expected annualized impacts from PSPS at a specific location. This considers two factors: (1) the likelihood a PSPS will be required due to environmental conditions exceeding design conditions, and (2) the potential consequences of the PSPS for each affected community, considering exposure potential and vulnerability.
PSPS vulnerability	The susceptibility of people or a community to adverse effects of a PSPS event, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the adverse effects of a PSPS event (e.g., high AFN population, poor energy resiliency, low socioeconomics).
Public safety partners	First/emergency responders at the local, state, and federal levels; water, wastewater, and communication service providers; community choice aggregators (CCAs); affected publicly owned electrical corporations/electrical cooperatives; tribal

Term	Definition
	governments; Energy Safety; the Commission; the California Office of Emergency Services; and CAL FIRE.
Qualitative target	Specific, measurable, achievable, realistic, and timely outcomes for the overall WMP strategy, or mitigation initiatives and activities that a utility can implement to satisfy the primary goals and subgoals of the WMP program.
Quantitative target	A forward-looking, quantifiable measurement of work to which an electrical corporation commits to in its WMP. Electrical corporations will show progress toward completing targets in subsequent reports, including data submissions and WMP Updates.
RFW OH circuit mile day	Sum of OH circuit miles of utility grid subject to RFW each day within a given time period, calculated as the number of OH circuit miles under RFW multiplied by the number of days those miles are under said RFW. For example, if 100 OH circuit miles are under RFW for one day, and 10 of those miles are under RFW for an additional day, then the total RFW OH circuit mile days would be 110.
Risk	A measure of the anticipated adverse effects from a hazard considering the consequences and frequency of the hazard occurring. [39]
Risk component	A part of an electric corporation's risk analysis framework used to determine overall utility risk.
Risk evaluation	The process of comparing the results of a risk analysis with risk criteria to determine whether the risk and/or its magnitude is acceptable or tolerable. (ISO 31000:2009.)

[39] Adapted from: Introduction to International Disaster Management.

Term	Definition
Risk event	An event with probability of ignition, such as wire down, contact with objects, line slap, event with evidence of heat generation, or other event that causes sparking or has the potential to cause ignition. The following all qualify as risk events: • Ignitions • Outages not caused by vegetation • Outages caused by vegetation • Wire-down events • Faults • Other events with potential to cause ignition
Risk management	Systematic application of management policies, procedures, and practices to the tasks of communication, consultation, establishment of context, and identification, analysis, evaluation, treatment, monitoring, and review of risk. (ISO 31000.)
Rule	Section of Public Utilities Code requiring a particular activity or establishing a particular threshold.
Rural region	In accordance with GO 165, area with a population of less than 1,000 persons per square mile, as determined by the U.S. Bureau of the Census. For purposes of the WMP, "area" must be defined as a census tract.
Seminar	An informal discussion, designed to orient participants to new or updated plans, policies, or procedures (e.g., to review a new external communications standard operating procedure).
Sensitivity analysis	Process used to determine the relationships between the uncertainty in the independent variables ("input") used in an analysis and the uncertainty in the resultant dependent variables ("output"). (SFPE guidance.)

Term	Definition
Situational Awareness	An on-going process of gathering information by observation and by communication with others. This information is integrated to create an individual's perception of a given situation.[40]
Slash	Branches or limbs less than four inches in diameter, and bark and split products debris left on the ground as a result of utility vegetation management. [41]
Span	The space between adjacent supporting poles or structures on a circuit consisting of electric lines and equipment. "Span level" refers to asset-scale granularity.
Tabletop exercise (TTX)	A discussion-based exercise intended to stimulate discussion of various issues regarding a hypothetical situation. Tabletop exercises can be used to assess plans, policies, and procedures or to assess types of systems needed to guide the prevention of response to, or recovery from a defined incident.
Trees with strike potential	Trees that could either, in whole or in part, “fall in” to a power line or have portions detach and “fly in” to contact a power line in high-wind conditions.
Uncertainty	The amount by which an observed or calculated value might differ from the true value. For an observed value, the difference is “experimental uncertainty”; for a calculated value, it is “model” or “parameter uncertainty.” (Adapted from SFPE guidance.)
Urban region	In accordance with GO 165, area with a population of more than 1,000 persons per square mile, as determined by the U.S. Bureau of the Census. For purposes of the WMP, “area” must be defined as a census tract.

[40] Glossary of Wildland Fire.

[41] Pub. Res. Code § 4525.7.

Term	Definition
Utility-related ignition	An event that meets the criteria for a reportable event subject to fire-related reporting requirements.[42]
Validation	Process of determining the degree to which a calculation method accurately represents the real world from the perspective of the intended uses of the calculation method without modifying input parameters based on observations in a specific scenario. (Adapted from ASTM E 1355.)
Vegetation management (VM)	The assessment, intervention, and management of vegetation, including pruning and removal of trees and other vegetation around electrical infrastructure for safety, reliability, and risk reduction.
Verification	Process to ensure that a model is working as designed, that is, that the equations are being properly solved. Verification is essentially a check of the mathematics. (SFPE guidance.)
Vulnerability	The propensity or predisposition of a community to be adversely affected by a hazard, including the characteristics of a person, group, or service and their situation that influences their capacity to anticipate, cope with, resist, and recover from the adverse effects of a hazard.
Wildfire consequence	The total anticipated adverse effects from a wildfire on a community that is reached. This considers the wildfire hazard intensity, the wildfire exposure potential, and the inherent wildfire vulnerabilities of communities at risk.
Wildfire exposure potential	The potential physical, social, or economic impact of wildfire on people, property, critical infrastructure, livelihoods, health, environmental services, local economies, cultural/historical resources, and other high-value assets. This may include direct or indirect impacts, as well as short- and long-term impacts.

[42] D.14-02-015, page C-3.

Term	Definition
Wildfire hazard intensity	The potential intensity of a wildfire at a specific location within the service territory given a probabilistic set of weather profiles, vegetation, and topography.
Wildfire likelihood	The total anticipated annualized number of fires reaching each spatial location resulting from utility-related ignitions at each location in the electrical corporation service territory. This considers the ignition likelihood and the likelihood that an ignition will transition into a wildfire based on the probabilistic weather conditions in the area.
Wildfire mitigation strategy	Overview of the key mitigation initiatives at enterprise level and component level across the electrical corporation's service territory, including interim strategies where long-term mitigation initiatives have long implementation timelines. This includes a description of the enterprise-level monitoring and evaluation strategy for assessing overall effectiveness of the WMP.
Wildfire risk	The total expected annualized impacts from ignitions at a specific location. This considers the likelihood that an ignition will occur, the likelihood the ignition will transition into a wildfire, and the potential consequences—considering hazard intensity, exposure potential, and vulnerability—the wildfire will have for each community it reaches.
Wildfire spread likelihood	The likelihood that a fire with a nearby but unknown ignition point will transition into a wildfire and will spread to a location in the service territory based on a probabilistic set of weather profiles, vegetation, and topography.
Wildfire vulnerability	The susceptibility of people or a community to adverse effects of a wildfire, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the adverse effects of a wildfire (e.g., AFN customers, Social Vulnerability Index, age of structures, firefighting capacities).
Wildland-urban interface (WUI)	The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation fuels (National Wildfire Coordinating Group).

Term	Definition
Wire down	Instance where an electric transmission or distribution conductor is broken and falls from its intended position to rest on the ground or a foreign object.
Work order	A prescription for asset or vegetation management activities resulting from asset or vegetation management inspection findings.
Workshop	Discussion that resembles a seminar but is employed to build specific products, such as a draft plan or policy (e.g., a multi-year training and exercise plan).